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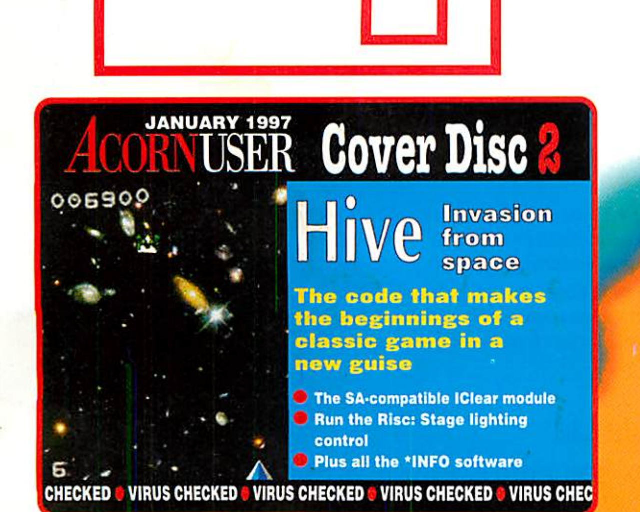
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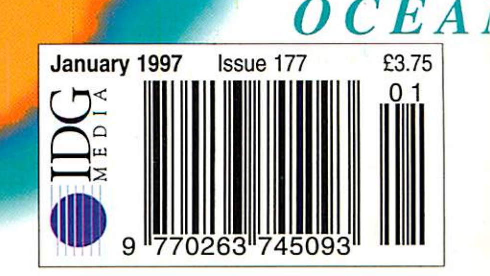


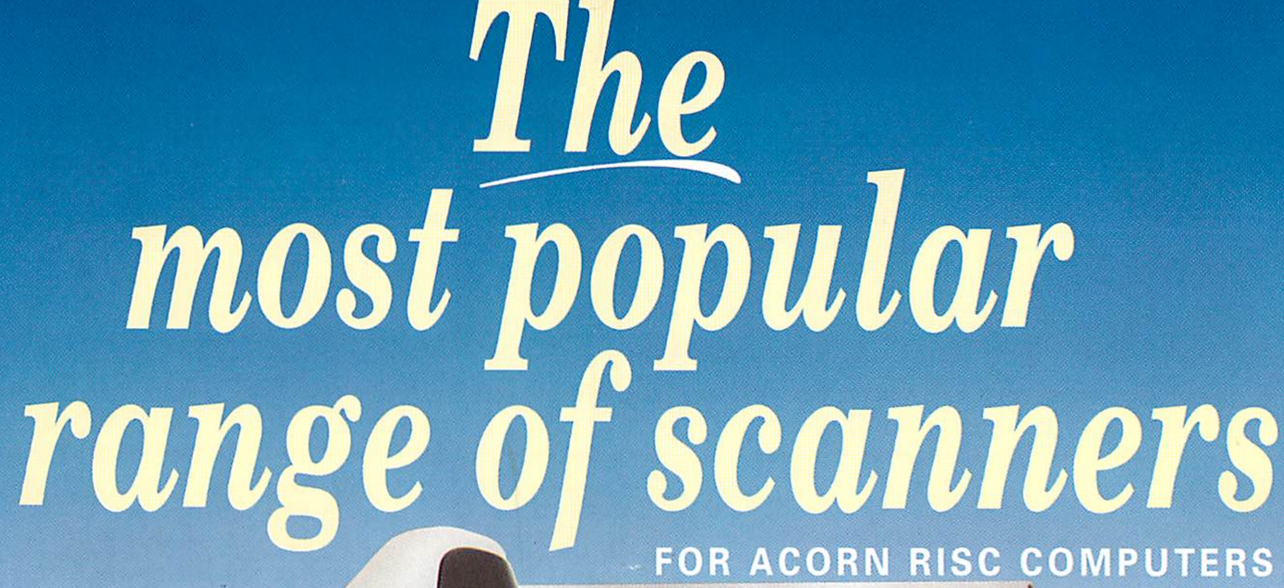


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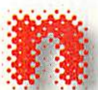
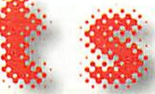
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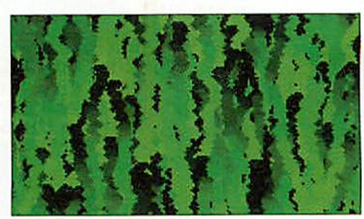
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news

Microsoft to convert Windows to the ARM



WELL, YES and no. Microsoft has decided to produce a version of Windows 95 for small handheld computers called Windows CE and only recently has disclosed that it is to be converted for the ARM range of processors. This drastically slimmed down version of Windows 95 is to be supplied in only 4Mb of ROM and needs a mere 2Mb of RAM to run it. It is a 32-bit, multi-tasking, multi-threaded operating system that has an open architecture design and comes supplied with support for a variety of devices. It will be supplied with Microsoft Internet Explorer for surfing the Internet and the OS will contain software for communicating and exchanging information with Windows-based PCs.

Microsoft will be supplying the software to hardware designers in 1997 and finished products are expected to start at around £500. All this will have profound impact on Psion who were rumoured to be launching a Psion 4.0 in 1997 which is said to contain a StrongARM processor with speech recognition. If anyone is worried (or delighted?) about this being a small step towards the possibility of a version of Windows 95 being converted to the Acorn platform, don't hold your breath...



New Acorn Users group

SASAUG is a new group for all users of Acorn computers who live within the Surrey and Sussex area of England. The group are meeting for the first time of January 30 1997 from 8pm till 10pm in The Holbrook Tythe Barn, North Horsham, West Sussex. The evening will feature Gordon Taylor, on behalf of ART, demonstrating a wide range of applications on a StrongARM-powered Risc PC, running at 200MHz.

Contact Stuart Bell at sabell@argonet.co.uk for more details.

MelIDI, a 32 track MIDI sequencer

THE LACK OF good MIDI sequencers on the Acorn platform has been long overdue. *MelIDI* by Liquid Silicon may change all of that by offering a huge range of professional features like: 32-track pattern based MIDI sequencer, standard MIDI file import/export, tempo/pitch bend/aftertouch/velocity/controller maps, drum pattern and Piano roll editors, supports any Acorn-compliant MIDI interface, up to 64 independent MIDI channels and still runs in a 2Mb machine with room to spare!

It is due out in the first quarter of 1997 with an enhanced fully professional version to follow later in the year.

Liquid Silicon is offering an advanced Beta version of *MelIDI* due to public demand. If you've got e-mail access then you can even join a special *MelIDI* mailing list.

Contact Liquid Silicon for more details at FREEPOST EH2725, Kirkcaldy, Fife, KY2 5BR. Tel: (01592) 592265 Fax: (01592) 596102. E-mail: liquid@cableinet.co.uk, WWW: http://www.cybervillage.co.uk/acorn/liquid/

StrongARM goes from strength to strength

DIGITAL EQUIPMENT Corporation has revealed that its StrongARM SA-110 microprocessor has jumped to the lead among CPUs for Internet/intranet appliances and thin-client computer products. Due to its low cost and high performance, companies from around the world are flocking to Digital in order to license the use of the device in their own systems.

Wyse Technology, who makes approximately 80 per cent of the industry computer terminal sales and LG Electronics, an affiliate of Lucky Goldstar Group, one of the world's largest consumer companies are just two of the companies who have already stated their goal in producing StrongARM powered computers for the consumer and industrial markets. At this time we can't speculate what direct involvement Acorn has with these companies but as it is part owner of ARM Ltd, Acorn can't lose.

CJE number change

THE NEW contact numbers for CJE Micro's, an Acorn Centre of Technology, are, tel: (01903) 523666, fax: (01903) 523679. WWW: http://www.art.acorn.co.uk/coft/CJE/

New images for ImageFS

ALTERNATIVE PUBLISHING has just released v2.30 of its hugely popular graphic file converter – *ImageFS*. This package was originally designed to handle the fast and easy conversion of foreign bit-map graphics into Sprites. Now v2.30 can just as easily convert a Sprite into any one of dozens of types like TIFF, GIF, BMP, JPEG, *MacPaint*, *PhotoShop* or even Psion3 images.

Other extra features included are a redesigned front end to allow easier tailoring of its configuration, more sub-graphic formats like 16-bit or CMYK Windows 95 BMPs, *PhotoShop* v2.5/3.0 files and it is now fully StrongARM compatible.

One major and perhaps most interesting update is that *ImageFS* now has the ability to import Windows WMF files, which are the rough equivalent of *Draw* files for RISC OS. This opens up a huge amount of PC clipart that is available to the *ImageFS* user.

AP also plans to add support for a much wider range of file import, for example: Computer Graphics Metafiles (.CGM), Adobe Illustrator (.AI .EPS), Corel Presentation Exchange (.CMX), Wordperfect graphics (.WPG), Data Exchange Format (.DXF), OS/2 Metafiles (.MET), Hewlett Packard Graphics Language (.PLT .HGL), Lotus PIC graphics (.PIC).

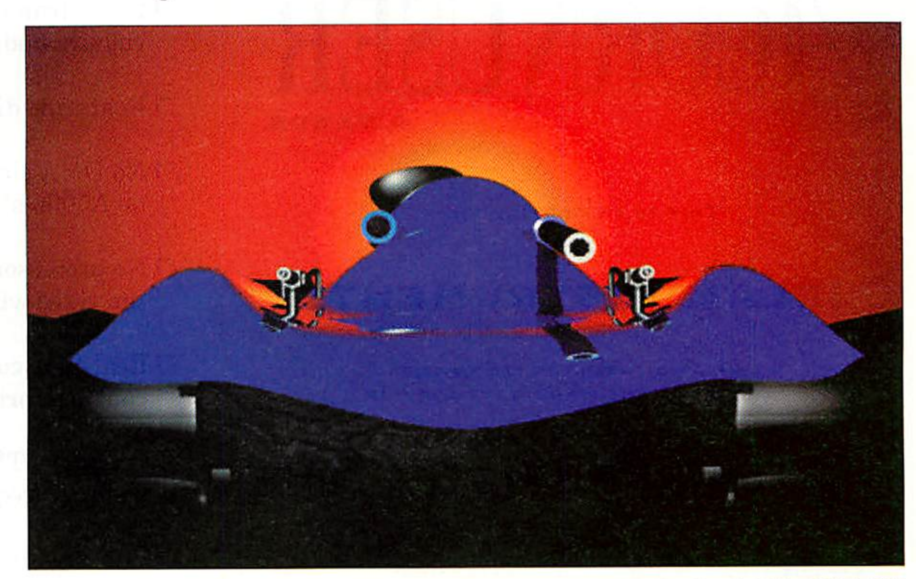
Alternative Publishing can be contacted at 30 Clyde Place, Glasgow, G5 8AQ, United Kingdom. Tel: 0141-418 0881, fax: 0141-418 0889. E-mail: support@apsoft.co.uk



Tanks for the memory

WEREWOLF SOFTWARE'S *Tanks* is a new multiplayer combat game for any RISC OS computer. The concept is simple, each player has a TANKS (Tactical Armoured Nuclear Kombat Station) that is placed somewhere on a hillside. By firing a variety of missiles, bombs and other devices over the hills, the player tries to destroy the other TANKS. The last one alive is the winner.

At first glance this game looks like a step back in time with no music, no video clips and a screen reminiscent of a games invented in the late eighties with its plain 2D view of a hillside. But once you've played a few times you're hooked as this game has what even some state-of-the art games still don't have – playability!



Not for the *Xenon* players among us maybe, but without doubt it is addictive and definitely worth £25.95 (+£1.50 p+p). It is fully StrongARM compatible and a demonstration version is available to download from Werewolf's web site.

Tanks can be ordered from Werewolf Software, 23 The Spinneys, Bromley, Kent, BR1 2NT, England. Tel: 0181-467 1148. E-mail: info@werewlf.demon.co.uk, WWW: http//www.werewlf.demon .co.uk/

Canon goes for Photo Realism

CANON HAS just release a new range of colour bubble jet printers, the A3 BJC-4550 and the A4 BJC-4200. These state-of-the art machines were being displayed for the first time to Acorn users at the recent December Scottish Acorn Show in East Kilbride. With 720x360dpi they can use the new Canon Photorealism ink cartridge as well as the more normal two cartridge CMY and K inks system for monochrome and 'normal' quality colour output.

The Photorealism cartridge actually holds eight waterfast colours, two of each of the CMYK colours, and by varying the strength of each of these inks the dot on the page can be given a much greater tonal range of colours than ever seen before for a bubble jet. Indeed after seeing this printer create images at virtually dye-sublimation quality we have to say that we've never seen images this good before on a low-cost bubble jet. The cost? The A3 BJC-4550 is £299+VAT and the A4 is £249+VAT. The Photorealism cartridge costs £30+VAT and comes supplied with 50 sheets of coated paper.

One minus note at this time is that the Acorn printer drivers are not yet finished to enable Acorn users to print via *!Printers*, but Integrex, the distributor for Canon, says that an Acorn driver will be available shortly.

Contact Integrex, Church Gresley, Swadlincote, Derbys, DE11 9PT. Tel: (01283) 550880. Fax: (01283) 552028. E-mail: printers@integrex.telme.com. Canon can be contacted on Tel: 0121-666 6262.

Scottish Acorn Show

THE FIRST major Acorn user show in Scotland was deemed a success by everyone who attended. The show was only organised a few months ago by Acorn dealer Robert Todd of Todd Education Computer Services in Glasgow and was well attended with over 450 people who overwhelmingly agreed that is was about time Scotland had its own show!

A large number of the visitors said they were unable to attend the Acorn World or Wakefield shows due to the distance and expense involved. Some of the exhibitors were *Acorn User*, ART, SpaceTech Ltd, SIMTEC Electronics, Design IT, Learning Through Computing, APDL, Argonet / VTi / Eclipse, Software7, Tower Electronics, Alternative Publishing, Liquid Silicon, DBC Publications Ltd, R-Comp, CTA Direct, The Computer Depot, Wardlaw Surveys, Serious Statistical Software, Integrex Printers, Quantum Software/The Acorn Cybervillage, Xemplar (Scotsys), Clares, Creative Curriculum Software, Dalriada Data Technology and Risc BSD.

Robert Todd said that it looks very likely that there will be another bigger and better Scottish Show next year!

Games Suite

GRASSHOPPER SOFTWARE is due to release *The Games Suite* in January. It includes everything needed to write professional quality games in any language. Powered by a powerful relocatable module and running at up to 19.5 times faster than the Acorn VDU drivers, the suite incorporates fast sprite plotting with a host of game support procedures.

Also included is a range of support applications to take the work out of games writing. The editing application *!Makescene* allows a user to create working games simply in a fully WIMP environment without any programming or entering any code. A fully working game can be produced by anyone with only minimal experience.

Applications created on the *Games Suite* install on the icon bar and run in the wimp environment. Once the game has been created, it will also generate distribution discs which can be numbered and registered to individual users.

The Games Suite is to retail at £25. For further details contact Grasshopper software, 6 Truro Close, East Leake, LE12 6HB or WWW http://users.ox.ac.uk/~sjoh0576



Best of Europe



THE ACORN Cybervillage by Quantum Software is one year old this month and what better achievement for this popular Internet web site than to be awarded the 'Best of Europe...' award for the best Web site in the United Kingdom in the category of Computer by Europe Online. Well done!

The Acorn Cybervillage is at http://www.cybervillage.co.uk/acorn/

StrongHelp manual for Toolbox

TOOLBOX, the set of modules for easier WIMP programming has been around for some time now but to date the only way to find out how to use them has been to purchase the weighty C/C++ package. Programmers can now contact their local dealer for a copy of the StrongHelp manual off Acorn's web site or if they have Internet access from the Acorn Cybervillage Programmers page at http://www.cybervillage.co.uk/acorn/prog.htm

Wakefield Acorn Spring Show 1997

AFTER THE huge success of last year's Wakefield Acorn show the Wakefield Acorn Computer User Group have released details of the time and place of this years show. It will be taking place over the weekend of Saturday 17 and Sunday 18 May 1997. It is sponsored by *Acorn User* and supported by ART and Xemplar.

The opening times are Saturday - 10.30am until 6pm, Sunday - 10.00am until 5pm with advance ticket holders allowed in half an hour earlier. The venue has been changed to reflect the enormous success of last years show which at times was a touch packed out. The new venue is at the Sports Hall in the Thornes Park Athletics Stadium, Horbury Road, Wakefield, WF2 8TY.

Ticket prices are Adults - £3.00 (£2.50 advance), Juniors (under 18) - £2.00 (£1.50 advance). Further details are available from the Group at Show 97, 95 Cumbrian Way, Lupset Park, Wakefield, West Yorks, WF2 8JT or contact one of the Show Co-ordinators. Chris Hughes: show97@cumbrian.demon.co.uk, tel: (01924) 379778 or Mike Wilson: show97@barc.demon.co.uk, tel: 0113-253 3722. WWW: http://www.cybervillage.co.uk/acorn/wakefield/

Caller display from Octopus Systems

JUST IMAGINE: The phone is about to ring. *You* don't know it but your computer does. So it displays the name and number of the caller, opens their notes and account records and turns off the audio CD that's playing in the CD-ROM drive. It does all this just before the phone rings and then speaks the name of the caller in case you are away from the screen.

This is the scenario presented by Octopus Systems for a new device for the Acorn platform. A small Caller Display unit plugs into a standard telephone socket and passes the callers telephone number which is transmitted between phone rings into the computer via its serial port. The software can be configured to simply display or speak the telephone number or to run a database/address book program to automatically present all the caller details. For businesses this is an invaluable time saver and Octopus are to be congratulated on bringing to the Acorn market a very important professional business device. The Caller Display device with Speech software costs only £125 and includes the Caller Display unit, software, manual, telephone splitter, VAT and delivery.

Octopus Systems, 9 Randwell Close, Ipswich IP4 5ES, England. Tel: (01473) 728943, fax: (01473) 270643. E-mail: sales@octosys.co.uk. WWW: http://www.octosys.co.uk/

Creator v3.0

HOT ON the heels of v2.01, *Creator*, the popular Shareware bitmap graphic file converter program is now at v3.0. This version includes extra features for Web page designers and is fully StrongARM compatible. John Kortink has included sophisticated quantisation and dithering algorithms in 100 per cent pure ARM code so that for example the amount of colours used in an GIF file can be reduced very quickly with the minimum of image distortion and so reduce the size of these type of images substantially. *Creator* supports many file formats including AIM, Clear, GIF, IFF, IMG, Irlam, JPEG, MacPaint, MTV, PCX, Sprite, TIFF and can create Clear, GIF, JPEG, PBMPlus, Sprite and TIFF images. Registration of *Creator* is only 30 Dutch Gilders or its equivalent in bank notes or eurocheque. John Kortink can be contacted at Nutterbrink 31, 7544 WJ Enschede, The Netherlands. E-mail: kortink@inter.nl.net. WWW: http://www.inter.nl.net/users/J.Kortink/

RumourVille

IT IS STRONGLY rumoured that Digital, the producer of the StrongARM, has already stretched the boundaries of processor speed by making a prototype 378MHz version of the StrongARM only a few short months after introducing the 202MHz and 233MHz version. This would seem to reflect Peter Bondar's breathtaking statement at the Acorn World 1996 show where he stated that 300+MHz StrongARM RiscPCs would be in production by the end of 1997!

Early in 1997 Acorn will be shipping a StrongARM computer packaged with a game from TBA Software which uses their latest 3D rendering software engine TAG. This game is to be StrongARM only and is reported to show to the world just what the graphics of an Acorn machine can do. Is this for the RiscPC or the rumoured A7000 StrongARM replacement that Peter Bondar also talked about at the show?

BSkyB is rumoured to be in talks with Acorn over the development of a new Sky set-top box for the next generation of digital satellite receivers to lead Sky into the 21st Century with a box that can deliver 200+ television channels, widescreen ability and Internet access. If true, and we wish Acorn the best of luck in this endeavour, Acorn boxes could be found in the homes of millions of British homes but no one will know as it's unlikely to be badged as an Acorn box.

Of course, these are just rumours...

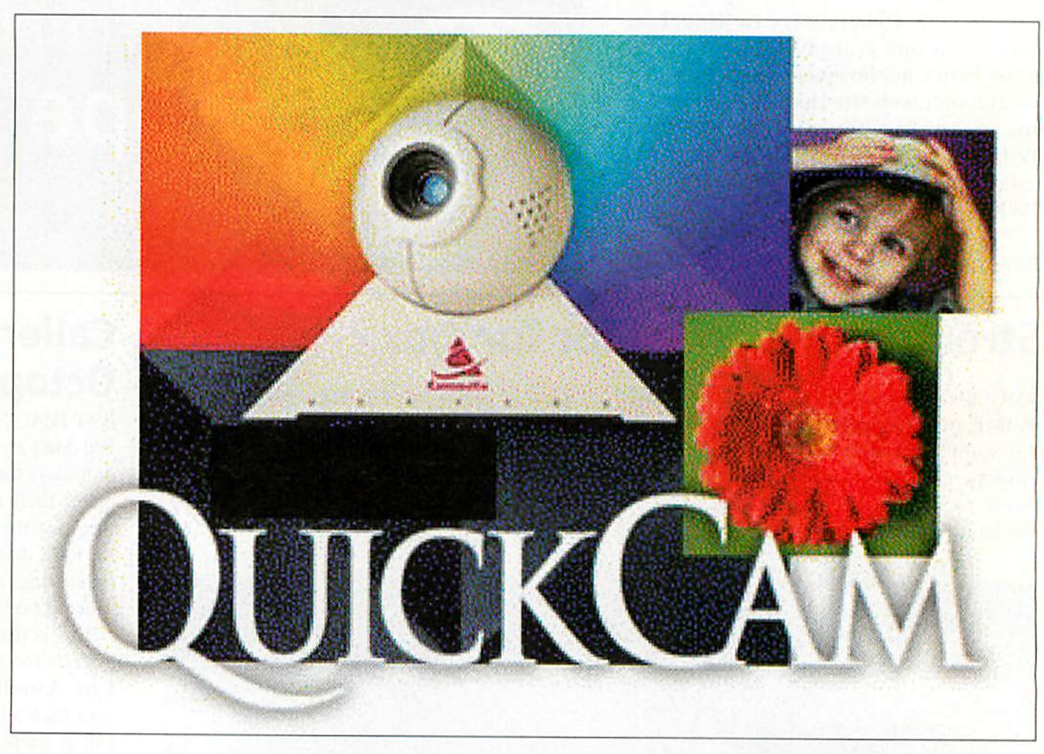


news

QuickCam for the Acorn

QUICKCAM by Connectix is a very popular small golf-ball like black and white video camera that plugs into virtually any computers parallel port and offers the ability to capture live digital (up to 320x256 by 64 greys) video pictures directly onto the computer's hard disc. Until recently this amazing device has not been supported on the Acorn platform.

Oregan Developments is the official Connectix QuickCam developer and has provided the same features of the PC version and more. The device is quick to set up and very easy to use and simply fits on to the computers parallel port and requires no internal capture cards so it is easy to transport from one machine to another. Some functions that Oregan have provided are Replay movie grabbing, Sprite snapshots, a timelapse facility, timer functions and real-time movie compression.



The device is available for RISC OS machines (3.1 to 3.7) direct from Oregan Developments for £109.95 fully inclusive or if you've already got one running on a PC then the Acorn software can be purchased separately for £24.95. Oregan is currently converting the Colour version of the QuickCam to the Acorn and this will be available from January 1997.

Contact Oregan Developments at 36 Grosvenor Avenue, Streetly, Sutton Coldfield, B74 3PE. Tel: 0121-353 6044, fax: 0121-353 6472. E-mail: support@oregan.demon.co.uk. WWW: http://www.oregan.demon.co.uk/

Acorn patches !Printers 1.53

Acorn has announced a patch for users of *!Printers* v1.53 on mainly RISC OS 3.1 machines, although a small number of RISC OS 3.5/3.6 users may also be affected.

The patch corrects the following two problems:

- Established applications that once printed reliably with *!Printers* 1.28 or earlier sometimes/always encountered errors and failed to complete a print
- Newer Hewlett Packard printers that cannot be used because output to them from the Acorn parallel port is extremely slow

If using *!Printers* 1.52 or earlier, then Acorn recommends obtaining *!Printers* 1.53 and then installing this update kit. The kit can be obtained from your local Acorn dealer, who may make a small charge for it, or via the Internet at http://www.art.acorn.co.uk/ftp/riscos/patches/printers153.arc

Users of *!Printers* 1.54 (as supplied with RISC OS 3.7) should install the RISC OS 3.7 ROM patch set available from your local dealer or via the Internet at http://www.art.acorn.co.uk/ftp/riscos/patches/riscos370sa.arc instead.

Undelete now available

FOR A LONG time now Acorn users have moaned about the inability to undelete files from their floppy or hard discs. In a survey Quantum gave to their customers, the top most wanted ability was to be able to quickly and easily recover accidentally deleted files. *!Undelete* is the result of this.

The product works on RISC OS 3.1 to StrongARM 3.7 machines and allows files that have been deleted since the program was installed to be simply selected from a list in a window and clicked upon to restore them. It is totally non-technical in use, no complex map, sector, tracks or any other in-depth knowledge of discs is required, unlike some other file rescue programs on the market. Plus it can remember files deleted over a period of time which means that a machine can be switched off and files can be recovered the next day.

!Undelete is available for £18.95 plus £1.00 for postage and packaging in the UK for a single user license, site licenses prices are available on request. For more details contact Quantum Software at 35 Pinewood Park, Deans, Livingston, EH54 8NN. Tel: (01506) 411162. E-mail:sales@quantumsoft.co.uk. WWW: http://www.cybervillage.co.uk/acorn/qs/

Wyddfa StrongARM compatible software

IF YOU ARE using any Wyddfa Software products then the following software versions are now StrongARM compatible: *Talking Pictures* 1.05, *The Spoken Word* 1.12, *Talking Stories* 1.03, *Talking Calculator* 1.04.

Upgrades from recent versions are available free of charge from Wyddfa Software at 3 Preswylfa, Llanberis, Gwynedd, LL55 4LF. Tel: (01286) 870101. Fax: (01286) 871722 or via the Internet at http://www.argonet.co.uk/business/wyddfa/



StrongARM stickers for Risc PC door flap

ANDREW CONROY, a primary school teacher in Nottingham and Keith Parker have designed and will print a high quality flexible vinyl label to go on the Risc PC door flap, to announce to the world that it has a StrongARM inside. The label will cover the original sticker and we are told will cost only £1.00 all inclusive. But first they want a vote to find out which design to mass print, over 500 firm orders are needed before they will commit to one of the designs.

Decide which one you like and contact Andrew Conroy at 100 Skegby Road, Kirkby-in-Ashfield, Nottingham, NG17 9FF or vote via his web page at http://www. argonet.co.uk/users/ a.m.conroy/



StrongARM™
RiscPC
200MHz



RiscPC SA110™ 200MHz

Which StrongARM sticker would you prefer ? It's up to you

TBA Software release !TBAFS

***TBA* SOFTWARE has released *TBAFS*, a rival Filing System to the popular *ArcFS* by Mark Smith of VTi. The main advantages of *TBAFS* over *ArcFS*, say TBA, is that TBAFS has been optimised for speed of compression or decompression placing large files in to it. *TBAFS* also uses far less memory regardless of the size of file being accessed, than *ArcFS*.**

It's been a while since *ArcFS* has been updated to cope with demands – it can't cope with ADFS filenames being over 10 characters in length. On the other hand *TBAFS* has been designed to cope with filenames of up to 36 characters — both can handle a very large number of files in a single directory. Ideal when working on a web site or with a PC partition! TBA Software also say that further expansion is planned to cope with the other compression types used such as *Spark* and *Zip*.

***TBAFS* is only £24.99 fully inclusive. The product was officially launched at Acorn World and since then v1.1 has been released. A demonstration copy of TBAFS is available from their web site at http://www.netlink.co.uk/users/tba/ or contact TBA Software at Mead Farm, North Road, Timsbury, Nr Bath, Acon, BA3 1JH. Tel: (01761) 470003.**

New ArtWorks tool released

FOLLOWING THE success of the shareware *Polygon* and *Translate ArtWorks* tools there is yet another new module called *Intersect* just released. This module can be used to create many interesting effects, including hatching, pattern-filling and even simple transparency effects in *ArtWorks*.

Intersect is completely free to registered users of the *Polygon* tool so the only legal way of obtaining it is to register for *Polygon* — which is only £10 for private users.

The *Polygon* tool has been upgraded to v1.10 which now allows control of the angular offset of the inner corners of a star. You can even produce self-intersecting spirograph-type objects. The new release of *Polygon* also includes the tutorial pages for the *Intersect* module so you can see yourself how powerful it is.

Polygon can be obtained from Martin Wuerthner at Jahnstrasse 18, 71116 Gaertringen, Germany. Tel: +49 7034 928986, fax: +49 7034 928988. E-mail: wuerthne@trick.informatik.uni-stuttgart.de. WWW: ftp://micros.hensa.ac.uk/ micros/arch/riscos/e/e155/ with Translate at /e/e156/

Showroom open Mon-Sat 10-18.00 hrs (All prices INCLUDE VAT) Carriage not included

CD-ROM Drives

Multi-Session, PhotoCD, CD-DA, White & Green Book compatible. SCSI drives require SCSI card with CDFS>2.20
Carriage: a=£2, b=£6, c=£8

Internal ATAPI CD-ROM Drives

Toshiba 8xCD ATAPI (Tray)	£85b
Cable & Fitting Kit	£10a

Above drives are compatible with RiscPC/A7000 only.

Internal SCSI Drives (Tray)

Sony 2x CD SCSI 275ms	£80b
Pioneer 4.4x CD SCSI 150ms	£185b

PCW Verdict - 'It's extremely quick, and a bargain.'

Pioneer 10x CD SCSI 130ms	£235b

External SCSI CD-ROM Drives

Sony 2x CD SCSI 275ms	£135c
Pioneer 4.4x CD SCSI 150ms	£260c
Pioneer 10x CD SCSI 130ms	£315c

For SCSI interfaces refer to Hard Disc section adjacent.

Hard Discs

Carr.: a=£2, b=£6, c=£8

IDE 3½" Bare Hard Drives

Seagate (Connor) 1Gb	£150b
IBM 2.1Gb	£200b

ForA3000/A3010 hard discs see Hard Card section below.

SCSI 3½" Bare Hard Drives

IBM 540Mb	£170b
Fujitsu 1Gb	£250b
IBM 2Gb	£300b

Syquest Removable SCSI Drives

All following Syquest Drives include a Cartridge.

105Mb Internal	£109b	105Mb Cartridge	£29a
EZ230 External	£240c	EZ135Mb Cartr.	£20a
270Mb Internal	£165b	EZ230Mb Cartr.	£21a
270Mb External	£245c	270Mb Cartridge	£40a

Hard Disc Interfaces/Accessories

IDE interface	£85b	50-50C SCSI Cble	£10a
Morley Uncached	£113b	25D-50C SCSI Cbl	£10a
Morley Cached	£165b	SCSI2-50C Cable	£18a
Cumana SCSI II	£195b	SCSI2-25D cable	£18a
PowerTec SCSI2	£195b	50IDC 4-way SCSI	£15a
		50C Terminator	£10
		50HPC Terminator	£15
External case/psu	£90c	2nd IDE Drive Kit	£15a

zip/jaz Drives

• zip & jaz Drives work just like hard drives except they are removeable, letting you instantly access files and applications.
• zip drives use 100Mb capacity discs & jaz drives use 540Mb/1Gb discs allowing any number of discs giving unlimited capacity.
• The drives are fast. Data transfer speeds around 1Mb/s for zip drives & >2.3Mb/s for jaz drives - ideal to backup your hard drive.
• Each drive comes with 1 year warranty and a starter disc.
• These drives require a SCSI card that is suitable for removeable devices.

Internal zip drive (5¼")	£145c
External zip drive	£145c
Single 100Mb zip Cartridge	£15a
Pack of 6 zip Cartridges	£65b
Internal 1Gb jaz drive (3½")	£350c
External 1Gb jaz drive	£435c
Single 540Mb jaz cartridge	£Call
Single 1Gb jaz cartridge	£70a

TopicArt

TopicArtCD1 £25a

This CD-ROM Contains over 2000 ClipArt files, each in Draw, ArtWorks & EPS formats + Replay Movies & demos

Floppy discs £8a each

Single disc clipart containing approx. 50 high quality draw format clip art images on each disc, on a single subject. Comes with mono reference sheet. 20 subjects are available now. Please specify when ordering. Site licence is included.

1	General	11	Tools
2	Transport	12	AnimalsGB
3	Costumes	13	Chemical Hazard Signs
4	Entertainment	14	Fire/Emergency Signs
5	Bugs 2 Slugs	15	Hazard Signs
6	Road Signs	16	Safety Signs
7	Sports Equipment	17	Xmas1
8	Sports Figures	18	Xmas2
9	Dinosaurs	19	Xmas3
10	Symbols	20	Xmas4

RiscPC/A7000 Systems Ring now for special offers!

All include 1yr on-site maintenance. 3yr On-site is available. **Carriage included on computer systems.** For PC Cards see PC Card section below. **Please note that the 10Mb machine has one slice & a backplane is not fitted to RiscPC600.**

Computer Model	With AKF60 14" Monitor	With AKF91 17" Monitor	No Monitor
A7000 4MHD540	£1069	£1469	N/A
A7000 4MHD540+8xCD	£1169	£1769	N/A
RiscPC600 4MHD540	£1275	£1675	£1030
RiscPC600 4MHD540+8xCD	£1375	£1775	£1130
RiscPC700 5MHD540	£1525	£1900	£1280
RiscPC700 5MHD540+8xCD	£1625	£2000	£1380
RiscPC700 10MHD1Gb	£1750	£2100	£1530
RiscPC700 10MHD1Gb+8xCD	£1850	£2200	£1630

Deduct £50 for iiyama MF-8617E or Add £30 for iiyama MT-9017E.

StrongARM (when purchased with a RiscPC before end Jan '97) **£117**

20/20 Finance on Acorn computers

20% deposit (min) & 20 interest free monthly payments. Minimum loan £700, Maximum loan £2000. Available subject to status. Finance only applies to Acorn branded computer systems. Add other items to deposit. Ring now!

Coming Soon! The Acorn NetStation (Jan '97)

QuickLynk (v1.04) £32a

With 5m Local Cable	£39a
With 10m Local Cable	£45a
With 20m Local Cable	£52a

QuickLynk allows you to access another unattended RiscOS computer remotely using the serial port via modems or locally using a cable to connect the 2 computers. Each computer can be configured to allow access to any attached filing system device eg ADFS, IDE, SCSI, CDFS, etc. Once connected, files can be transferred to/from the remote computer. Other features include password access, auto dialler with phone book and chat mode to send messages to remote computer/user. Transfer rates up to 1.9 kbytes/s can be achieved with older computers, eg. A410, A3000, rising to 11.4 kbytes/s on the RiscPC range. The transfer rate is limited by the speed of the serial port. QuickLynk cannot at present be used directly from programs/command line. Requires RiscOS 3.10 or greater, ring for details.

QuickTile (v1.03) £29a

QuickTile allows you to create posters from ANY RiscOS application, including Impression. Simply enter the size of poster required & select PRINT from the application! QuickTile does the rest, printing each tile with crop marks and tile references. New features include the facility to print inverted crop marks or no crop marks. QuickTile can only be used with the RiscOS printer Driver or TurboDrivers.

Requires RISCOS 3.10 or later. Return disc to upgrade for £4. Upgrade from Tiler for £18.

Mail Order - 0161-474 0778 (All prices INCLUDE VAT) The lowest prices without compromise

RiscPC PC Cards

A=Upgrade from ACA42 or bought with RiscPC, B=purchased seperately. Carr.: £6

PCCard	A	B
5x86-100	£350	£460
486DX4-100	£230	£350
486DX2-66	£175	£290
PC Pro (without PCExchange)		£40
Window '95 CD (Full)		£90a

The above can be installed directly from CD without previously installing PCDOS/MS-DOS.

RiscPC Upgrades

Carriage: £3 for Sound Cards

StrongARM Upgrade	£275b
2nd Slice with PSU	£117c
2nd Slice without PSU	£90c
YES 16 bit Mozart Card	£70a

Memory (Carriage £3)

Call for latest prices, they MAY vary.

RiscPC/A7000 SIMMS

4Mb	£25	8Mb	£30
16Mb	£65	32Mb	£140

RiscPC VRAM

1Mb	£90	2Mb	£120
1-2Mb u/g (exchange)			£90

Call for details and prices of memory upgrades for other Acorn computers.

Monitors (Carriage £10)

Older computers will require an adaptor	£12
AKF50 14" 0.28dp	£315
Ilyama MF-8617E 17"	£575

High spec FST Tube with 0.26" dot pitch

Ilyama MT-9017E 17"	£645

Very High spec Diamondtron tube, 0.25" stripe

Printers (Carriage £8)

Canon BJC-210	£155
Canon BJC-4100	£220
Canon BJC-4200	£250
Canon BJC-4550	£375
Canon BJC-610 (720dpi)	£350
HP LaserJets Printers	£Call

Add £47 to above printers for TurboDriver

I³ Networking (Carr. £6)

A30X0 EtherLan 102	£140
Archi EtherLan 514	£140
RPC/A7k EtherLan 602	£120

Add £17 to above prices for Access+.

Portable Computers

Carriage: a=£2, b=£6, c=£8

Pocket Book II (1Mb)		£315b
Psion	**3a**	**NEW 3c**
1Mb RAM	£290	£320
2Mb RAM	£320	£385

AutoRoute Express UK/Eire £62a
- 'one of the best packages for the PB/3a

A-Link	£59a	PC Serial Link	£60a
Parallel Link	£28a	Mains Adaptor	£18a
128k RAM SSD	£45a	512k RAM SSD	£125a
256k Flash SSD	£50a	512k Flash SSD	£85a
PB/Ps3 Games	£Calla	PBII/Ps3a Games	£38a

Hardware Upgrades

24i16 Card (1Mb)	£450b
FPA for 25MHz ARM3	£67a
iTV TV Tuner & TTX	£150b
Joystick I/F (Not RiscPC)	£30a
Logitech Mouse (Acorn)	£26a
Midi Max Card (CC)	£79b
Movie Magic (CC)	£275b
Scart Cable (9 or 15 pin)	£12a
Serial Upgrade (A3000)	£27a
25W Speakers (mains)	£35b
80W Speakers (mains)	£45b

Modems (Carriage £8)

14.4 Voice Sportster	£115
33.6 Voice Sportster	£180

Modems come with a 25-25 PC wired cable & 25-9 adaptor which may hinder the printer port. A 9-25 way cables is available at £10 See below. A3k/Archi req. Archi wired cable.

ANT Internet Suite II	£115a
ArcFax	£32a
Dual Serial Card	£104b
9-25 Archi or PC Wired Modem Cable	£12ea.
3-way Serial T-Switch (incl. comm. cable)	£32

Scanners (Carriage £8)

ScanLight Video 256	£215

Epson Colour Scanners, include !TWAIN & ImageMaster for RiscOS. Bundles include CorelPaint & OCR software for PC's/PC Cards.

GTx-5000 Para bundle	£369
GTx-5000 SCSI bundle	£425
GT-5000 SCSI (bare)	£369
GTx-8500 Para bundle	£585
GT-8500 (bare)	£Call
GTx-9500 bundle	£Call
GT-9500 (bare)	£Call

Hard Cards/Multi-Pods

See top for other hard discs. Carriage £8

A3010 Hard Disc Multi-Pod

80Mb+User Port	£210
130Mb+User Port	£275
160Mb+User Port	£320

A3000 IDE Hardcards

80Mb + User Port	£170
130Mb + User Port	£210
160Mb + User Port	£255

Printer Consumables

Carriage: £2 for Cartridges, £8 for Toner

BJ-10 (BC-01)	£18	BJ-200 (BC-02)	£19
BJ-210 (BC-05)	£28	BJ-300 (BJI-642)	£16
BJC-600 Series		**BJC-4000 Series**	
BJI-201HCbk Black	£10	BCI-21Bk Black	£9
BJI-201bk Black	£6	BCI-21C Colour	£17
BJI-201C/M/Y	£8 ea.	BC-20 Fast Black	£28
BJC-800		**HP DeskJets**	
BJI-643 Black	£18	Mono	£23
BJI-643C/M/Y	£23 ea.	Colour	£25
Epson Stylus Colour		Black £16/Colour	£26
Epson Stylus Colour II		Black £20/Colour	£26
C3903A Toner (LJ5P)			£64
EP-L Toner (LBP-4/HP LJIII)			£64
HP 92274A Toner (HP LJ4L)			£60
Swift24 Mono/Colour Ribbon			£8/£16

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Terms: All prices include VAT except books. Carriage is not included unless otherwise stated. Carriage charges apply to mainland UK (excluding remote areas, Scottish Highlands, Chann Isles, IOM), elsewhere at cost. Orders MUST be accompanied by a phone number. Prices and spec's subject to change without notification. Goods subject to availability. Goods not offered on trial basis. Restocking fee on non-faulty returns. Official orders welcome from educational institutes, chq with order under £30. E&OE.

Where to Find Us

RiscOS 3.1 Upgrades

Single Rom set	£37a
10 Rom sets	£290b
Documentation/Discs	£22b
Carrier board (A300/A440)	£25a

Books (No VAT)

Carriage: a=£2, b=£6, c=£8,

Acorn RISCOS3 PRM's	£99.95c
Acorn Volume 5a PRM	£29.95b
Acorn BBC Basic VI Guide	£19.95b
Acorn RiscPC Tech Ref Manual	£49.95c
ArtWorks Made Easy (Dabs)	£5.00a
Budget DTP (Dabs)	£5.00a
'C' A Dabhand Guide (Dabs)	£5.00b
RiscOS 3 First Steps (Dabs)	£5.00a
Wimp Programming for All (Beebug)	£10.95a

CD-ROM's (Carriage £2)

CD software for RiscOS

ArtWorks on CD (CC) (Carriage £6)	£110
ClipArt CD 1/2 (CC)	£21 each
Dinosaurs (MS)	£44
Dune II (Eclipse)	£41
Granny's Garden CD	£32
Guardians of the Greenwood	£51
Hutchinsons Encyclopedia	£22
Musical Instruments (MS)	£44
PB Bears Birthday Party	£37
RiscDisc Vol 1 / 2 CD	£17 / £20
Simon the Sorcerer CD	£41

Applications

Carriage: a=£2, b=£6, c=£8

Advantage (Longman)	£52a
ANT Internet Suite (ANT)	£115a
ArcFax (David Pilling)	£32a
ArtWorks (CC)	£100b
Blinds (Quantum)	£25a
Card Shop (Clares)	£23a
Chameleon 2 (4Mation)	£39a
Compression (CC)	£34a
DataPower (IOTA)	£105b
Disc Rescue (Look)	£33a
Easy C++ (Beebug)	£110a
Eureka v3 (Longman)	£110a
FireWorkz Pro (Colton)	£164a
Font Directory2 (Look)	£42a
Font FX (DataStore)	£12a
Graphics Loaders (CC)	£50a
Hatchback (4Mation)	£38a
HTML Edit 2 (R-Comp)	£44a
ImageFS2 (Alt Publ)	£44a
Image Outliner (IOTA)	£54a
Impression Style / Publisher	£80 / £135b
MacFS / MacFS Lite (CC)	£89 / £53a
Ovation Pro **Limited Offer (9 copies)**	£150b
PC Pro (without PCExchange)	£40a
Personal Accounts (Apr)	£44a
PhotoDesk (Spacetech)	v.1 £185a/v.2 £245b
Prophet (Apricote)	£171a
Resultz (Colton)	£88a
Rhapsody (Clares) v3	£87a
S-Base2 Personal / Developer	£57 / £115c
ShapeFX (Datastore)	£12a
Sibelius 6 / 7	£206b / £920b
Sleuth2 (Beebug)	£110a
SparkFS (Pilling)	£24a
Speech 2! (Superior)	£24a
Studio24 Pro (Pineapple)	£130b
Touch Type (IOTA)	£45a
Top Model (Spacetech)	£115a
TurboDrivers (CC)	£50a
Vector (4Mation)	£86a

Games (Carriage £2)

Alone in the Dark (Krisalis)	£30
Birds of War (4D) 2Mb	£27
Break 147/Superpool	£27
Burn Out (Oregan)	£23
Cannon Fodder (Krisalis)	£23
Carnage Inc (4D)	£20
Chocks Compendium	£27
Chuck Rock (Krisalis)	£10
Crystal Maze (Sher)	£28
Cyber Chess (4D)	£27
Darkwood (Eclipse)	£28
Dune II (Eclipse)	£31
Empire Soccer (Maglm)	£27
E-Type Compend. (4D)	£20
E-Type 2 (4D)	£27
Fire & Ice (Times Warner)	£22
Global Effect (Eclipse)	£30
GODS (Krisalis)	£10
Haunted House (4D) 2Mb	£20
Holed Out Compendium	£20
James Pond (Krisalis)	£10
Krisalis Collection	£25
Lemmings (Krisalis)	£17
Lemmings for RiscPC	£24
Lotus Turbo Chall2 (Kris)	£22
Magic Pockets (Reneg)	£23
Man United Europe (Kris)	£10
Oh No More Lemmings	£18
Play it again Sam 2/3	£22 each
Populous (Krisalis)	£25
Real McCoy 2/3/4	£27 each
Repton 3/4 (Superior)	£22 each
Sally & Wally (Oregan)	£23
Saloon Cars Deluxe (4D)	£27
Scrabble (US Gold)	£24
Sim City (Krisalis)	£30
Sim City 2000 (RPC/A5k)	£34
Simon the Sorcerer 2Mb	£35
Spobbleoid Fantasy (4D)	£28
Starfighter 3000 (Fednet)	£27
Stunt Racer 2000 (4D)	£27
SWIV (Krisalis)	£10
Time Machine (4D)	£20
Virtual Golf (4D) 2Mb	£27
Wolfenstein 3D (Powerslave)	**£20**

Educational (Carr. £2)

10/10 Series **£20 each**
Early Essentials (over 7), English (6-16yrs), French (8-16yrs), Junior Essentials (5-11), Maths (Number) (6-16), Maths (Algebra) (6-16), Maths (Statistics) (6-16), Spelling (over 9)

Fun School 3 (<5, 5-7, >7)	£19
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Granny's Garden (4M)	£27
Maths Circus (4Mation)	£29
Naughty Stories Volumes 1 or 2	£58 each
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Ridiculous Rhymes	£Call
Rosie & Jim - Duck loses its Quack	£10
Rosie & Jim - Jim gets the sneezes	£10

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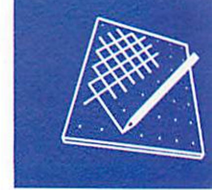






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JAN 97



New hardware promise – a boost for 3D graphics

ON THE Spacetech stand at Acorn World was the head *TopModel* programmer, Giancarlo Castagno, demonstrating StrongARM versions of *TopModel* and previewing *TopModel 2*.

There should soon be a new manual together with the arrival of version 2 featuring bump and chrome mapping, anti-aliasing and special effects like lens-flare. Hopefully *TopModel Pro* will follow with a fully professional editor and good export facilities to powerful Raytracers, like *PoVRay*.

If any coders are interested in developing specific areas of *TopModel* like Special FX, file transfer or AVI generators I would recommend contacting Sincronia ASAP, as *TopModel Pro* will be *the* hot new graphics package next year. Potentially, it could become the *Sibelius* of the graphics world, and a number of 3D imaging professionals and researchers have already expressed a serious interest in the system.

The other 3D programs, *DaVinci 90* from Aspex and *Merlin* were also at the show, but as many of us predicted last year, the market can only support one 3D modelling package, and that turned out to be *TopModel*. However, work has continued on *DaVinci* and some got a sneak preview of *180*.



1997 will hopefully see its launch with new tools; improved floating point emulator and yet faster rendering will make it the perfect package for many lower end users.

The realtime rendering power of *TopModel* on StrongARM I found comparable to a twin 200MHz Pentium Pro running Lightwave 3D with an Open GL 3D graphics accelerator (using my highly accurate 'blimey-that-was-quick' benchmark). But it is low-cost multiple StrongARM performance that will be vital to attract professional 'showcase' users.

Will the Risc PC benefit enough from the imminent Hydra upgrade to rattle Twin Pentium Pros or Twin PowerPCs for raw power? Well, the next generation of Risc PC, announced by ART at the show, will boast twin 300MHz StrongARMs-of-the-future, full multi-processor and multi-threading support with options for maths co-processors and further CPUs.

These machines will be a fraction of the price of similarly powered graphics workstations and based on ART's current performance, this is not just pie in the sky stuff, which could happen possibly maybe in the decade or so. Twelve months is the timescale. Watch this space.

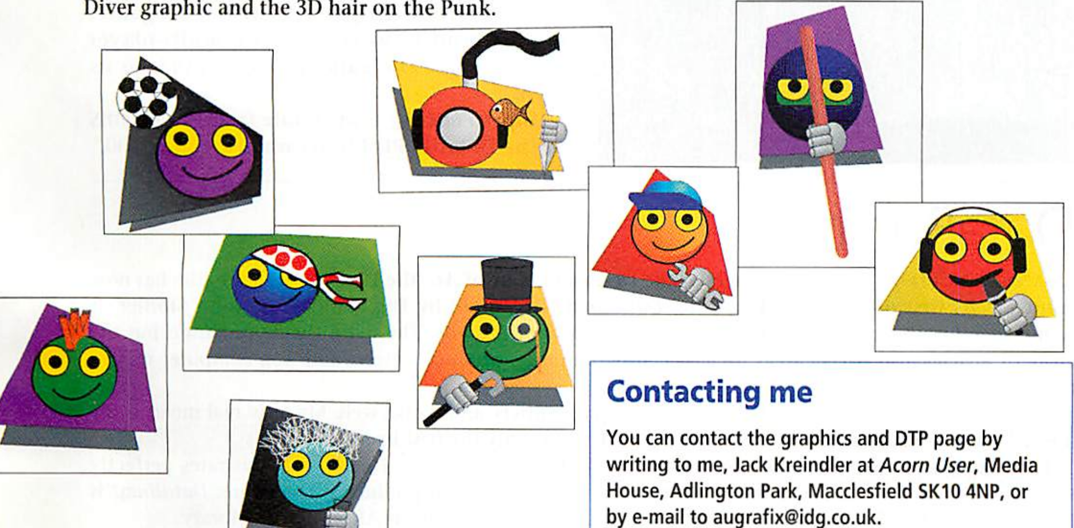
Sincronia is on 00 39 11 954 0540 or sincro@inrete.it, the UK distributor is Spacetech (01305) 822753.

Aspex is on (01822) 611060.

Picture of the month

THE PICTURE of the Month competition is welcomed back this issue with William Thompson's *Spots*. William, from Bath, was inspired by the graphical 'Spot' icons featured in the BBC's 'The O Zone' program but all his Spots were created from scratch using *ArtWorks*.

Great attention to detail belies the apparent simplicity of the graphics: Note the glass effect on the Monacle, the hair on the Mad Scientist, the bullets and smoke on the Gangster, the fishscales in the Diver graphic and the 3D hair on the Punk.



Contacting me

You can contact the graphics and DTP page by writing to me, Jack Kreindler at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by e-mail to augrafix@idg.co.uk.

DTP news hot off the Press

Fonts. There are lots of them around and many companies offer quite incredible deals. Hand over your loose change and you could walk home with a 1,000-odd fonts. Okay, this is exaggeration but how can any company afford to sell fonts so cheaply? 5p a font is not at all unusual.

The answer is that they are not all original. Many are edited from public domain libraries or converted from the Mac or PC. This is not to say that they are poor quality – many are full character sets with scaffolding and kerning pairs. However, the work required to do a good conversion is not nearly the amount needed to design a font from scratch and very serious issues of copyright may be involved.

In the New Year I will be looking in more detail at fonts, font management software and powerful accessory applications like Clive Semmens' *!Float*. I will also be reporting the good, the bad and the ugly font libraries available. Until then beware, every 5p font you buy may be putting bone fide Acorn font designers out of pocket and possibly out of business.

Texture Garden update

Two months ago the Graphics page featured Tim Tyler's *Texture Garden*. The version available at the time of writing is 5.5 which now includes menu options for textures up to 1024x1024 pixels. New raytraced lighting effects are available to produce bumpmapped textures. Light sources and colours can be changed and various shading algorithms can be used like Specular, Phong and Gourade. I'm sure it is just a matter of time before the package is whipped up by 3D graphic developers for texture map generation.

TMT's web site is at http://www.varuna.demon.co.uk/tmc/



public domain

Damn!

Damn is the latest demo from Arm's Tech and is a must for die-hard Geoff Crammond fans. The production is a nice little intro which crams some good ripped music, an introduction effect and a Sentinel-like 3D world into a tiny 38K chunk of code. It only came fifth place at the Yelling Jam but as a small intro it's a worthwhile addition to your demo collection. *Damn* is available from the Arm's Tech section of the Acorn Demo Site.

POVray

Version 3.00 of the popular ray-tracing program, *POVray* has been released and is available direct from the HENSA ftp site. *POVray* is a port to the Acorn, and is written by Andreas Schubert. It is ideal for ray-tracing output from 3D editors like *TopModel*.

Recommended PD libraries

The Datafile,
Willoughby House, 89 Woodville Road, Boston PE21 8BB

Naked PD,
'Fayence', Fulford Road, Stoke-on-Trent, Staffs ST11 9QT

Arch Angel PD,
PO Box 41, Exeter EX4 3EN

APDL,
39 Knighton Park Road, Sydenham,
London SE26 5RN

Five Star Marketing,
4 Shepherds Walk, Bushey, Hertfordshire WD2 1LZ

Beebware PD,
83 Forrest Road, Huncote, Leicester LE9 3BH

ARM Club PD Library,
Freepost ND6573,
London N12 0BR

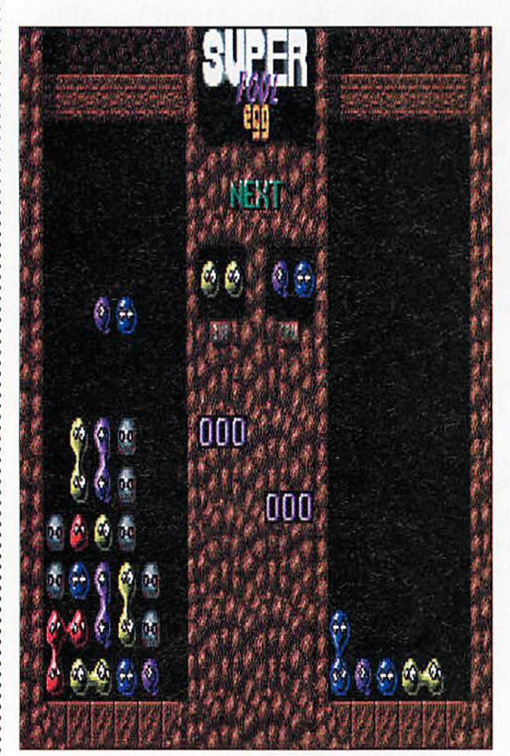
Risc World PD,
daniel.hayes@argonet.co.uk

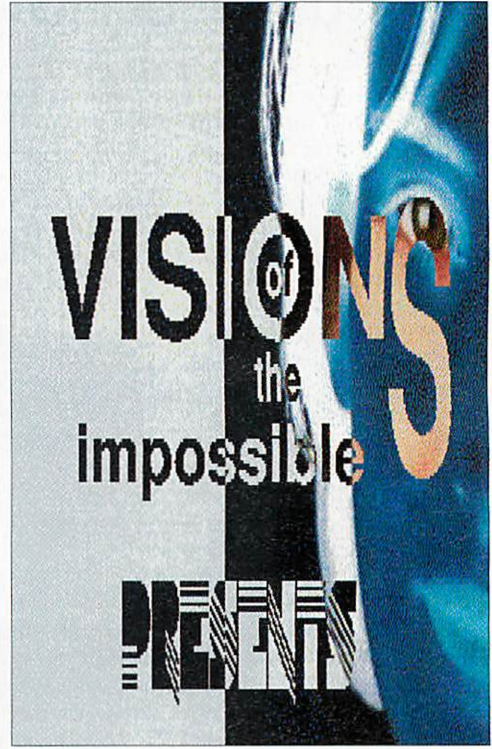
Super Foul Egg

AT FIRST sight, the whole basis behind this game seems rather tired. It's yet another *Tetris* clone, and yes, there's already been one or two of those. After a few plays, *Super Foul Egg* seems to be no different. Coloured eggs fall down the screen in patterns and four of the same colour have to be together at the bottom of the screen so that they disappear to make room for more. Okay, the graphics are quite neat and there's a nifty quarter screen four player option, but why am I giving it a mention in the column?

It's all down to a feature called *cascades*. When four eggs of the same colour come into contact they disappear letting other eggs above them shuffle into new positions. If this extra movement brings another four together, they disappear as well.

This is called a cascade. When this happens, a nicely sized points bonus is earned and a pile of rocks falls onto the screens of the other players. The rocks get in the way and make it harder to get further cascades. It may sound quite confusing but after three or four games, it suddenly clicks, and the setting up all manner of fiendish cascades begins.





This extra element forces the player to think ahead rather than just trying to get lines whenever possible as in *Tetris*. In SFE the most obvious decision of dropping four eggs of the same colour together won't get you very far. It's essential to get cascades to get ahead of opponents.

If I have one criticism of the game, it's the difficulty level of the computer opponents. Even on the easy setting it's very hard to keep up with their pace. As with most games of this kind however, it's the multi-player modes where the game really comes into its own.

Super Foul Egg is available from Arctic BBS or the Datafile PD library on disc Game 100.

DataBurst

AS ANNOUNCED on the Comms pages of the December issue of *AU*, the Digital Databank BBS has now launched its first official disc magazine, *DataBurst*. Organised by Digibank sysop, John Stonier, it brings together the knowledge of a wide range of users of the BBS. The main theme is comms but the array of articles also covers areas such as C programming, product reviews and non-computer related columns.

The interface is of the single tasking, scrolling page variety and works well. My only real moan is the limited number of articles but this can be excused as it is only the first issue.

The magazine is an interesting follow-up to the now defunct *New Dawn*, and illustrates perfectly what can be achieved when ordinary Acorn users club together to produce PD software. *DataBurst* is Freeware but can only be obtained from the Digital Databank BBS or the ARM Club PD library.

FireBolt

THE REVIVAL of the classic PD game, *Moonquake,* which has featured heavily on both the AU games page and the Internet news groups recently has caused much interest in *Bomba Man* clones, and yet another version has found its way onto my VDU. *FireBolt* is much the same as *Moonquake* but with improved graphics and four player modes.

The main difference between the two is the addition of monsters. They enter the playing through doors at the edges of the screen which must be taken out with bombs while open. The monsters cause serious problems by either eating you if you get too close, or by simply laying down rocks as they move around.

This adds much more interest for the one player mode and increases the difficulty for those bored with the old *Bomba* clones. *GameOn* is required to run the game on a RPC.

FireBolt is PD and can be obtained from the Datafile PD on disc Game 100

A word of warning to StrongARM users. Many game modules have been compressed using *Crunch* and will stop the game from running on the SA – the QTM music player often causes this problem. This can be solved very simply by copying over the crunched QTMmodule app with a relocatable module version of the player.

FireBolt will need to have its QTMmodule updated before it can be tried on the SA.

Software requests

A COUPLE of quickie software requests this month. P Barry would like to see a version of the *Countdown* numbers game that runs in the desktop and Alan Metcalfe is looking for a comprehensive desktop sound configuration program.

Various utilities that allow sound links to desktop actions have appeared in the past, but I've personally not found any that are quite satisfactory. In addition to linking sounds to system events, Alan wants to be able to play specific sounds for each key press, making the program into a valuable tool for visually impaired users. If you can help, send an e-mail or drop me a line at the usual address.

Yelling Jam

THE FIRST Acorn demo party took place in Germany in October and the competition entries are just beginning to filter through to the scene here in the UK.

A full report with comments from the freaks who attended the party can be found on Frederic Elisei's excellent demo pages on the Web at: http://sidonie.imag.fr/Acorn Demos.

For those without access to the net, the top five entries in the demo competition were selected as follows:

1. Jojo	**Archiologics**
2. NoPal	**Bass**
3. Insanity	**Expression**
4. Doors of perception	**Icebird**
5. Damn	**Baah/ ArmsTech**

Voting was very close with only four votes separating the top three.

While we wait for the complete release of the winning Archiologics demo, check out the review of the Arms Tech entry elsewhere on these pages.

Roll on next year's party!

Colony

MORE GAMES news this month with the announcement of the impending release of a new strategy game conversion by Anthony Sims. It puts the player in charge of a small colony of settlers in the near future. The aim is to conquer the galaxy by manufacturing and sending out spaceships to attack and gain control of enemy planets. The good news is that it's multiplayer and judging from the preview copy there will be some computer AI to allow single player games.

Although a little hard to get into at first (the interface isn't particularly self-explanatory) *Colony* looks set to be a must for all the strategists out there. It isn't ready for release yet, but in the meantime check out the *Colony* web site at: http://www.simsfam.demon.co.uk or e-mail Anthony to become a play tester at: ant@simsfam.demon.co.uk Expect a full review on the PD page when the complete game is released.

Contacting me

You can contact the PD page by writing to me, Paul Wheatley, at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP. Or preferably, by e-mail to aupdpage@idg.co.uk

Signum

Apologies for confusing the new Xperience demo with Expression's latest demo release, *Signum*, in the December issue. *Signum* was actually produced by members of Expression and Icebird at the Expression demo party.

Unfortunately it's not as exciting as first reports indicated, but the level of graphics and animation used is quite good for the groups first demo release. Signum can be downloaded from the Acorn demo site on the Internet, at: http://sidonie.imag.fr/ AcornDemos

Darc

The Derbyshire Acorn Risc Club is a relatively new club on the Acorn scene and features an in-house PD library. The library is now well established with a big range of PD software.

Library manager, Paul Mellor, wants to keep it as up-to-date as possible and welcomes contributions from PD authors and users. Paul will swap new PD for existing software from the library.

Contact Paul at: Salisbury House, 161 Shardlow Road, Alvaston, Derby, DE24 0JT.

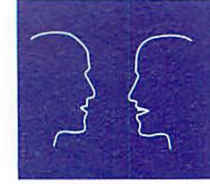
IClear

An updated version of the *IClear* module, which works on the StrongARM, is now available. For those who have not yet encountered this incredibly handy utility, it emulates an aspect of Windows on the PC, to make text entry to writable icons much faster.

When a writable icon is opened (for example when you open a save window, the pathname to save to is in an icon of this kind), it usually contains some default text which you have to click on and delete using the keyboard.

After loading *IClear*, a double click selects the text which is then automatically deleted when you start typing your new text.

IClear is one of those invaluable utilities that you take for granted as part of RISC OS until you use a computer that hasn't got it loaded up. You can find it on this month's cover disc.



Making the World Wide Web work

IN THE PC World, there are plenty of World Wide Web page and HTML authoring packages, but for the Acorn user who wants to create a high quality Web site there is much less choice of native software. One way round this is to combine the superb graphical ability of the Risc PC with the existing PC authoring packages.

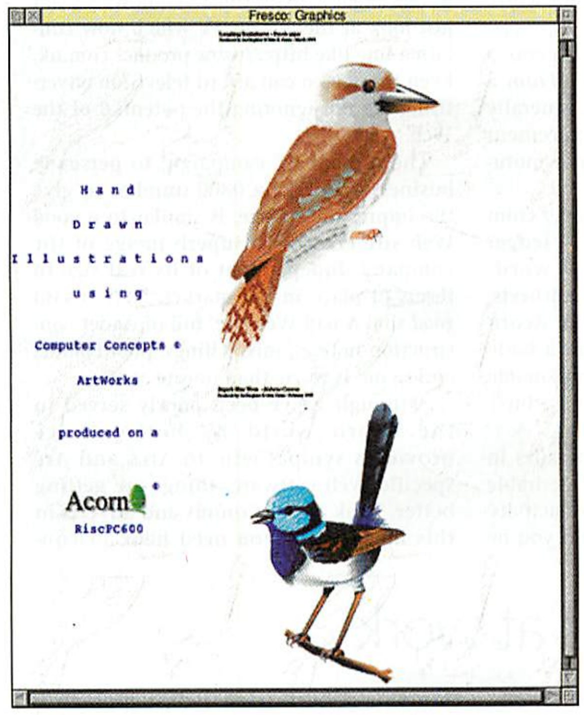
Good examples of what can be achieved can be seen on the Web site of John E. Carne of Adelaide, Australia. John has created professional graphics such as the bird illustrations here using Computer Concepts' *ArtWorks* on a Risc PC 600, but creating the HTML for his Web site pages with the PC Windows package *HotDog*, running on a 33MHz 486 PC card in the same machine.

Some of John's pages use HTML frames which cannot be displayed (to date) by any available Web browser for Acorn machines, but non-frames versions of the pages are automatically presented. Other Web graphics examples on his site have been created with Clares *ProArtisan* in combination with *ArtWorks*.

After six years in the forces and 20 in the defence industry, and then having been made redundant, John Carne spent some time travelling the outback of South Australia indulging in writing, painting and photography, then touring the UK, parts of Europe and other parts of Australia.

John now has a small business providing freelance travel writing services, HTML authoring and Web graphics. So maybe all you need to start a Web page design business as a second career is a Risc PC with a selection of Acorn graphics software such as *ArtWorks*, *ProArtisan*, Spacetech's *PhotoDesk*, David Pilling's *Imagemaster* and a document scanner.

Of course, you'll need some artistic talent as well. John Carne has plenty of this which can be seen on his Web site at http://dove.mtx.net.au/~jxc/



Can Bulletin Boards survive Internet challenge?

EXACTLY a year ago I wrote about the friendly atmosphere felt when using a dial-up BBS compared with accessing the impersonal Internet and all its world-wide wonders. I hoped then that Acorn comms enthusiasts would continue to call Bulletin Boards in spite of the Internet's attractions.

BBS call rates during the past year have not been encouraging, and there seem to be several reasons. Past frequent BBS callers have 'moved-on' from school or college to university or into jobs where Internet access is free and always available when modems are not. It's good though to find that many of our past Arcade BBS regulars are now working for Acorn companies.

Newcomers to comms are being lured to the Internet and away from BBSs by low-cost modems, Internet software packages and local call ISP accounts. This is happening in spite of the excellent Freeware available for dial-up comms such as *!Connector*, *OLRead* and *DigiMail* readers, *FidoMail* and *!Binkley*.

Although comms is the remit for this page, there has been some criticism that there's too much about 'old-hat' bulletin boards and not enough about the 'wonderful world' of the Internet. I've been checking back in past issues and the evidence is that the emphasis has really been about equal.

During 1996 the Comms page featured seven leading articles on dial-up Bulletin Boards, and six on Internet or non-BBS subjects. Of the supporting articles, three were about Fidonet or offline message readers for BBS use, while the other nine concerned the reader with Internet interests.

So what aspect of Acorn comms should this page be reflecting? Should there be less about Bulletin Boards and more about the Internet or has the balance been about right? Your comments are valued and feedback from you is welcomed. Call your local BBS and Netmail your comments to David Dade at 2:254/27.0 or contact me at the usual address.

Contacting me

Keep sending me interesting URLs for the next yoUR List by writing to me, David Dade at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP, or by e-mail to david@arcade.demon.co.uk, or mail #2 on Arcade BBS 0181-654 2212.

Faster Thunderbolt

Toby Mackenzie, sysop of Thunderbolt BBS in Orpington, Kent reports improvements to his BBS, including upgrading to a 28k8 Sportster modem and increasing his Risc PC's memory to 17Mb. A selection of Toby's own ArmBBS support software is now online, and the BBS has become the full FidoNet node 2:440/480.0.

Thunderbolt BBS
Tel: (01689) 603608

StrongARM site

Peter Smith's StrongARM Games compatibility Web page has a useful list of Acorn 32-bit games and their working status under RISC OS 3.7 and the StrongARM processor. There's also a section of hints and tips plus some downloadable patches and links to patches on other sites. Peter's home pages also feature the specification of the ART 'RocketShip' Risc PC and some of his own software, all StrongARM compatible.

SA Games page
http://www.ursaminr.demon.co.uk/sagames.htm

Digital Exposure

Even if Andover, Hampshire isn't a local phone call, have a look at Marc Warman's new 24-hour Digital Exposure BBS. Running ArmBBS on a Risc PC 600 with a 33k6 Sportster modem, the BBS features some really nice ANSI graphics and dynamic screen effects. Marc welcomes any donations from users giving them enhanced facilities for helping to expand the BBS.

Digital Exposure BBS
Tel: (01264) 361212

Ubik BBS again

On October 18, all French telephone numbers changed to 10 digits, including that of Ubik BBS, the only Acorn BBS in France. Ubik now has an expanding ArmBBS freeform filebase of SoundTracker module files, and an Internet newsfeed of the comp.sys.acorn* newsgroups. Bertrand Jesenberger also reminds us that there's no PC area on his 24-hour Ubik BBS.

Ubik BBS France
Tel: (+33) 01 40 84 98 89



A prosperous New Year

GIVEN THAT you cannot buy the future in computing – what can you buy now that will increase your productivity and therefore your profits? A PC can be an easy way to part with money as it is never satisfied. Acorn machines, post-BBCs, bought a number of years ago are generally insulated from this and can be relatively cheaply and easily upgraded to a worthwhile and workable computer.

As New Year approaches now seems a good time to upgrade and extend. From a business point of view computers generally fall into two categories – the replacement and the functional. The two are not mutually exclusive.

A replacement computer takes over from the typewriter, filing cabinet and ledger books, running mainly word-processing/DTP, database and spreadsheets. This is a fairly mature area of the Acorn market and a lot can be done with a basic Arc with 4-8 Meg of RAM and a reasonable sized hard disc. Obviously a decent printer and good software also helps.

I suppose that the scope for upgrades in this area is both less obvious and desirable but the question comes down to productivity – how much more productive could you be with a faster, more modern Arc. The A7000 is somewhat similar to the A3000 in that it is not particularly expandable, apart from RAM, but is also not very expensive. It also opens possible new areas for your business.

Perhaps the best upgrade advice I can give to a business this year is to buy a fast modem and get on-line. The Internet may be the biggest hype since Windows 95 but just look at the ads on TV which now contain a line like http://www.product.com.uk. Even those who can afford television advertising are not ignoring the potential of the Web.

The present BT campaign, to persuade businesses to take a 0800 number to give the impression of size, is similar to a good Web site creating a superb image of the company, independent of its real size in terms of place in the market. Note, I said *good* site. A bad Web site, full of under construction notices, misspellings, poor colours and so on, is worse than no site at all.

Although we've been poorly served in the Acorn world by both service providers sympathetic to Arcs and Arc specific Web software, things are getting better. Look at the Comms and adverts in this magazine if you need help, or contact me at the address below and I may be able to offer advice.

A considerable other benefit of going on-line is access to e-mail. E-mail is widely considered to be the most cost effective method of communication. The fax machine should never have been invented and should now be consigned to the scrap heap of technology. Again beware just as junk faxes are a problem so is junk e-mail and this should be avoided.

The second class of computer I mentioned above is the functional – that is a computer or computers around which a business revolve. They may be running a specialised vertical application or involved in some aspect of the DTP/printing industry or connected to CNC lathes.

These computers are the ones most likely to benefit from StrongARM processors. This certainly seems like the upgrade of the year and should become the killer processor, that is, the processor so good you buy the computer to run it in.

In summary if your basic Arc is OK, that is, not needing more RAM or a bigger hard disc, then consider a modem and go on-line. If the computer needs replacing, think about StrongARM and go on-line.

Charity begins at work

THERE EXIST a number of organisations, charities and *ad hoc* arrangements to recycle older computers to schools and community organisations. The majority of these concern themselves largely with recycling older 286/386 and now 486 PCs.

This has always seemed to me of dubious benefit as these machines would probably require expensive upgrading to make them useful to the beneficiary. Of course an old Arc is still useful as it has a much longer life than a PC. As far as I know there exists no co-ordinated method of businesses recycling their older Acorn equipment to schools.

There must by now be a large number of businesses who have upgraded to newer, faster Arcs, Risc PCs and A7000s.

Many use their older machines as back-up or relegate them to more mundane aspects of business. And no doubt some have been relegated to cupboards and storerooms.

I am willing through this page and my mail/e-mail to act as a co-ordinator for any business with such Acorn equipment which it wishes to donate to schools and/or community organisations. This is not quite as straightforward as it sounds as not all schools use or would want Acorn equipment and a degree of movement of equipment may be required.

It may sound ungrateful but old BBC Bs and Masters cannot be part of this scheme. The oldest machines considered useful would have to be A310s and onwards. These could be upgraded in terms of memory and hard discs if required.

So, any business feeling in a charitable mood please contact me through this page and we'll see what can be done.

Counter Care

VTH INFORMATION Systems Limited have developed a system called Counter Care. This vertical system is designed for pharmacists and basically supervises the selling of over the counter (OTC) medicines.

It is based on an A7000 and the system holds cross referencing records on 1500 OTC medicines and 90 healthcare topics; its automated diagnosis techniques recognise almost all self-treatable complaints and refers other complaints to the doctor via specially printed slips.

With the continuous rise in prescription charges the growth of the OTC medicine market has grown considerably and modern pharmacists can struggle to keep up-to-date with the pace of change. The information is updated monthly. The system is currently on trial with two national pharmacy chains.

For further information contact Stephen Tudway of VTi on (01329) 289416.

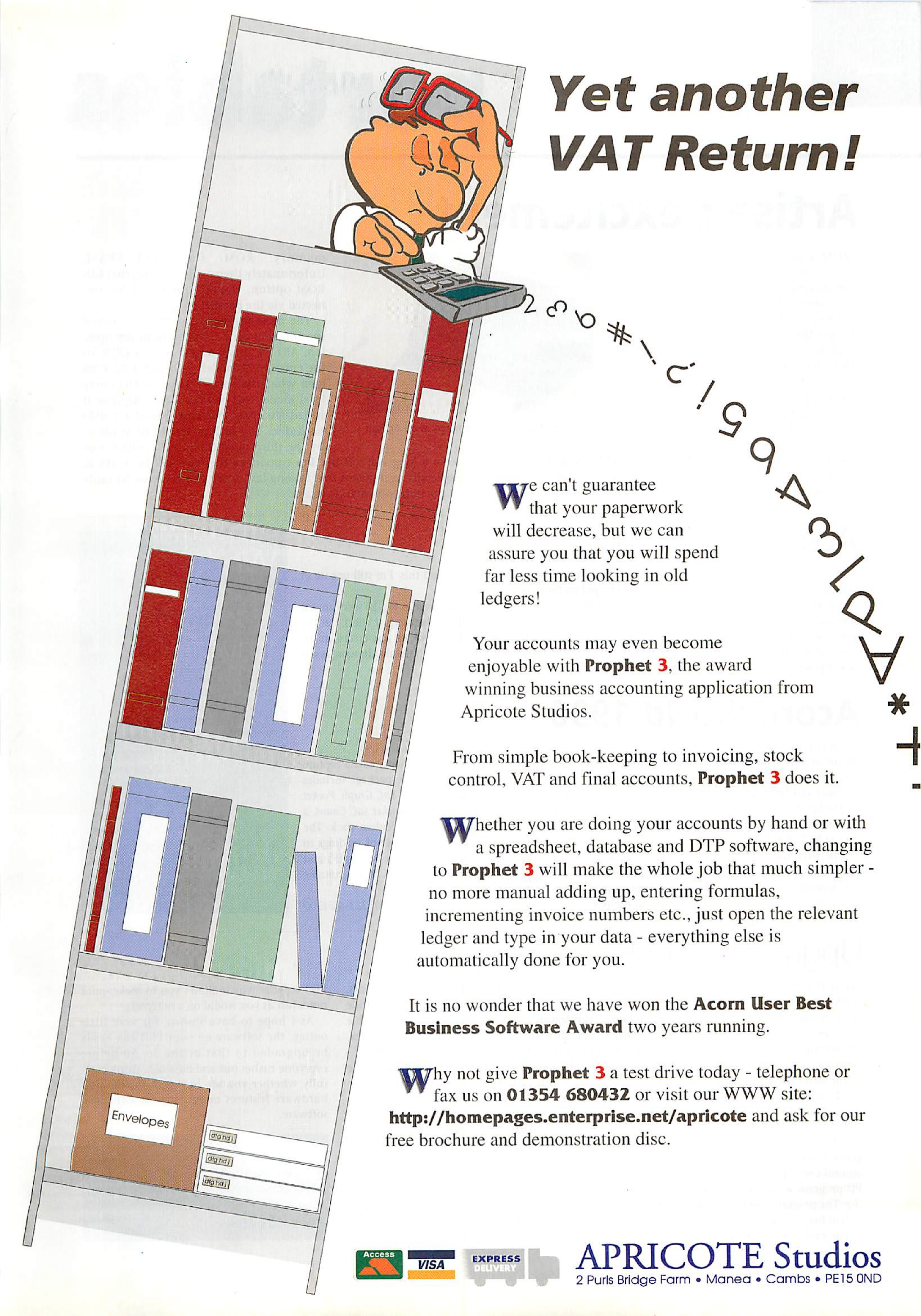
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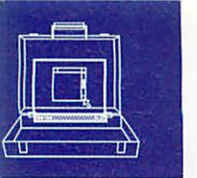
FLIPSIDE ARE a new company using Acorn machines to create Web sites for businesses and organisations. They have an Acorn dedicated Internet Service Provider (ISP) and the ability to check work in Netscape Navigator running the PC card in the Risc PC.

For further information contact Richard Adams on r.adams@argonet.co.uk or on (01803) 863863. Their own Web site is at http://www.flipside.co.uk

Contact

You can contact me, Mike Tomkinson, by post at the usual *Acorn User* address or by dropping me an e-mail at: *aubizniz@idg.co.uk*

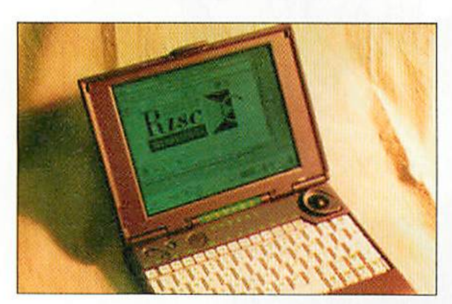

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Artisan excitement

FROM a portable perspective the most exciting news from Acorn World was the announcement of a new Acorn notebook: code-named Artisan. Unlike the Stork and the NewsPad which are both prototype designs the Artisan is actually going to be available to buy. Peter Bondar, director of ART, describes it as an updated hybrid design of the Stork and NewsPad.

On paper the Artisan looks like being a superb machine: it will initially be powered by the ARM7500FE chip but a StrongARM version will come online later. The machine will have the option of a colour TFT screen as well as the traditional black and white one. The specifications are pretty vague at the moment – all Peter Bondar will say is that it will have lots of memory: ROM, flash and SRAM. Unfortunately there will be no internal CD-ROM option, though one could be connected via the parallel port.



The Stork – soon to emerge as an Artisan

The most impressive part of the initial specification of the Artisan is, in my opinion, ART's estimated price – circa £999 for the entry level model. Although I have no idea what the specification of the entry level model will be I would be surprised if it had less than 4Mb and around a 250Mb hard disc. The Artisan should be available by the third quarter of 1997 – which may seem a long way off but I'm convinced the wait will be worth it, especially as it means that at long last Acorn can be taken seriously in the notebook market again.

Acorn User Web site

THE *ACORN USER* Portables Page Web site should be on-line by the time you read this. I'm still unsure of the URL at this time but full details of this will be put on the *Acorn User* web site.

The site has four main sections: a web site/ftp links page, an essential software page, a top 10 software list and a back issues section. Rather than describe each section in detail it's probably best to just check out the Web site when it comes online. This is my first attempt at HTML so please forgive me for any errors in the code. Also if anyone wishes to design some graphics for the headers I would be very grateful – drawing is not my strong point!

Working and travelling

IN RECENT weeks I've spent quite a bit of time travelling on trains and I must admit to having a silent chuckle every time I see someone lugging around a laptop and annoying the person sitting opposite by taking up most of the table.

My Pocket Book II is small, unobtrusive and doesn't annoy anyone – the perfect device for working while travelling... Probably.

Acorn World 1996

AS WELL as the Acorn Artisan other announcements at Acorn World of interest to portable users were two new Pocket Book solutions – *Pocket Contact* and *Sense and Control* – from Xemplar

Pocket Contact is a control system for the Pocket Book II, which is suitable for teaching control at KS 2, 3 and 4.

The pack includes; the *Pocket Contact* software on SSD, a Contact Controller Plus interface which has four motor outputs, eight digital outputs/inputs and four sensor inputs, a link cable and all the relevant manuals. The package costs £363.50.

Sense and Control is a comprehensive data capture package for science subjects. The package includes four software applications: *Pocket SaC Graph, Pocket SaC Sense, Pocket SaC Time* and *Pocket SaC Count*, a SaC interface and link and a curriculum pack. The software supplied allows all manner of readings to be taken including frequencies, velocities, pH's and much more. The package costs £586 and is suitable for Key Stage 3 and 4 Science.

Xemplar Tel: (01223) 724200

Upgrade your PBII to nearly a 3c!

WITH THE release of the Psion 3c many Pocket Book users may be considering upgrading to the new machine. But before you do, it is useful to know that unless you want the hardware enhancements of the 3c, you can upgrade the software on your PBII to virtually that of the 3c.

The main software enhancements on the 3c are the addition of *Jotter, SoundMaster* and *Files* and enhanced versions of *Data* and *Agenda*.

The enhanced database now offers a sort facility and a list view. The two *DataView* programs offer these facilities and more, but cost around £50 + VAT. Also available is *JBData,* a PD program which offers a list view and sorting. The program can be downloaded from the web at http://www.compulink.co.uk/~jbsoft/

The enhanced *Agenda* application includes a monthly view showing timed appointments. A shareware package called *JAM* can provide this feature on a PBII. The program is available for download at: http://ourworld.compuserve.com/homepages/ Martin_R_Sturgess/

The *SoundMaster* package is identical to the one Psion sells and was reviewed in *AU* in February. It costs £29.95 and provides full sound-editing and manipulation facilities. The files application is similar to that of the Windows file manager. *FileManager* from Purple Software and *JBTree* from JBSoft will both carry out the task more than adequately. File Manager has more features than either *Files* or *JBTree* but costs £34.95 whereas *JBTree* is PD.

The only application that is not, as far as I know, available from a different source for the PBII is *Jotter* which allows you to make quick notes just as you would on a notepad.

As I hope to have shown, for very little outlay, the software on your PBII can easily be upgraded to that of the 3c. So before everyone rushes out and buys a 3c think carefully whether you are buying it for the new hardware features or just for the enhanced software.

Contacting me

You can contact the Portables page by writing to me, Mark Taylor at *Acorn User*, Media House, Adlington Park, Macclesfield SK10 4NP, or by email to auport@idg.co.uk

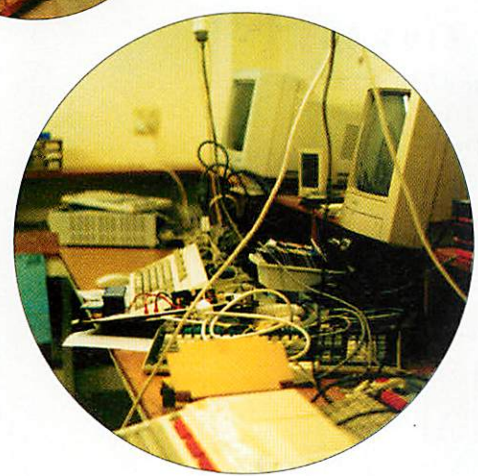
Acorn in the

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The Acorn market is alive and well in New Zealand, as **Mark Moxon** found when he visited Acorn's offices in Auckland







When visitors to Auckland, New Zealand's largest city, find out that the city is built on a dormant volcanic field that has the potential to erupt at any moment, they can't quite believe it. Even the looming cone of Rangitoto Island, the huge volcano that popped up right in the middle of the harbour only 600 years ago, isn't enough to make the leafy-green city feel as if it's sitting on one of the most powerful forces known to man.

Auckland's subterranean field isn't the only part of the city that's full of potential. Acorn New Zealand, Acorn's last fully-staffed overseas subsidiary, is prospering, and looks set to avoid the pitfalls that caused Acorn Australia to all but disappear earlier this year.

Despite the turmoil in the mother company in the UK over the last few years, and continuing pressure from the PC and Mac platforms in the education marketplace, Acorn New Zealand is still a market leader in education, something that Acorn fans aren't used to hearing outside the UK.

'The market in New Zealand is different to that in the UK,' says Doug Pauling, managing director of Acorn New Zealand and Acorn Australia. 'Our main competitor is Apple, which is the largest supplier of computers to the tertiary market and shares the biggest part of the primary market with us. Here we've always had a large share of the Primary School market, upwards of 40 per cent, as well as a definable share of the High School market, upwards of 15 per cent.'

'We've always enjoyed a really prominent place in New Zealand education,' says John Mansbridge, director of sales and marketing. 'There are a number of factors, but one of the most important has been the high quality of our dealers; most of them have educational backgrounds, so they can empathise with teachers, understand children and know all about learning theory. This has given us the edge over our competitors.'

There is nothing as constant as change though: New Zealand has just moved onto a four-term year, which has altered the schools' buying patterns. There is also the problem with boards of trustees and school governors who overlook the educational value of computers, and decide to buy ordinary PCs because they think it's important









land

to buy the 'industry standard'. Some things, it seems, are the same whichever side of the world you're on.

Chopping and changing

Acorn New Zealand was formed at the same time as Acorn Australia back in 1990, when Acorn UK bought Barson Computers in Australia and New Zealand, a company that had been trading very successfully as the main Acorn dealer and distributor since its inception in 1982. The Acorn New Zealand office is tucked away in Epsom, a leafy suburb that's close enough to the city to be convenient, but far enough away to have parking space.

Beyond the tidy reception and the management offices lie the bones of the operation. There's the busy workshop where components line the shelves, computers spill their innards onto the benchtops, and old Beebs and Domesday machines come to die while Risc PCs get future-proofed with StrongARM processors and extra slices.

There's the storeroom with its piles of computers, monitors and software packages, most imported from the UK, all ready to be sent out around New Zealand. At the back of the building is the office of EdIT Solutions, the new Auckland dealership formed by the Auckland sales staff when Acorn New Zealand reorganised. And tucked in next door is the technical department, where networks are designed, software is supported and problems are solved.

It's a compact company, with the advantage that there aren't too many people doing too many little jobs – a criticism often levelled at Acorn UK before its own reshuffle. The recent history of Acorn New Zealand is familiar to observers of Acorn Australia and Acorn UK: after sustained growth, profits fell and the company was reorganised according to a different business plan.

'In 1993 we changed from being a total distributor to being a direct sales organisation,' says Doug, 'and we bought out our dealers in Auckland, Wellington and Christchurch, merging them into the operation. However this year we've changed back to being a distributor, operating through separate dealers, because having our own sales force was proving too expensive.'

This new business model – taking one step back and just being a distributor and supporter – isn't too far removed from Acorn UK's appointment of its agents.

Luckily Acorn New Zealand hasn't had to make the very large staff cuts that both Acorn Australia and Acorn UK were forced to make in the last two years, a large number of original staff remain. This is to Doug's credit: he's a people person, and the fact that a large number of the core employees of Acorn have been working for the company since the days of Barson Computers is a testament to the loyalty of the staff and management and their belief in the Acorn message.

'We have some very good people here,' says Doug, 'loyal, dedicated staff who have been working for the company for well over ten years, in a number of cases. Through their hard work the New Zealand operation has always been profitable, apart from a short spell very recently, and we're back in the black now. I think that with the new business model in the UK, everyone feels it's working, and that optimism is spilling over onto us.'

This optimism stems from a number of things, not least of which is the renewed

ng white cloud

Acorn in the land of the long white cloud

vigour with which Acorn UK is attacking the marketplace, with investments in RISC OS development, new products like the Network Computer and StrongARM cards and alliances with some very big players.

'1997 will also be a big year for the Network Computer,' says Doug. 'It will sell into schools, and the Online Media set-top box will sell into specialised broadband markets. Our core business, though, remains education, and it's very important to us: it's vital for us to build up our profile again after the problems of the early 1990s and to ensure that the Acorn name remains synonymous with education.

'There are new marketplaces opening up for the new products, but these markets are led by a totally different ethos, so it's likely we'll form a new company to cover that area; on the other hand, if we sell network computers to schools, that will be done through the existing channels and through the Acorn name.

'While our core business is definitely education,' says John, 'we are still looking at the new market and potential revenue streams generated by Acorn's latest technology. We're trying to break down the concept of the desktop computer as the icon for IT in schools: we talk about a whole range of IT solutions, from the straight word processing of the Student Writer through to the palmtop power of the Pocket Book, then to devices like network computers, all the way up to NT and Unix servers at the top end. Xemplar's concept of the *media range* fits into our marketing philosophy perfectly.

'Bundling software is the way to go, a decision we arrived at independently of Xemplar's decision to market their toolboxes. We'll be looking to use the toolboxes over here, but we'll also be putting together our own more localised toolkits, such as the "talking computer" which comprises an A7000, *Talking Textease*, *Picture Point*, a range of Sherston's *Talking Books*, *Animated Numbers*, *Talking Atlas*, and more. It provides an IT scheme for reading, maths and language for ages five to seven and it makes it fun.'

Acorn Australia

Just over the Tasman Sea from New Zealand, Acorn Australia has proved to be less successful than its Kiwi cousin. Downsized to almost nothing, Acorn Australia still exists, but only just: it has delegated not only the selling of machines to dealers, but has also appointed a distributor, leaving the Acorn presence free to cut out all its overheads.

'Acorn Australia still exists,' says Doug. 'It is registered as a company in Victoria and is likely to appoint more distributors for Australia. One of the differences between the markets in New Zealand and Australia is that in New Zealand we don't have the problem of being legislated against.

'For example, in New South Wales the government had a scheme to set up an Internet connection for every school, but Acorn was left out of the equation because they reckoned our browser couldn't read Netscape files. Similarly, the EDNA scheme to produce a recommended computer for schools was heavily biased towards PCs and Macs. We need to reconstruct Acorn Australia to combat these sorts of problems. I think we'll pick up a lot of responsibility of the dealers in Australia, and the existing and future distributors over there.'

The Australian market is also interesting in that the current distributor and largest dealer, based in Perth, is selling both Acorns and Macs, having come independently to the same conclusion that led to the formation of Xemplar in the UK. However, New Zealand is different.

'The Xemplar model is an option for us,' says Doug, 'but Xemplar is a local UK company and the model has far more relevance there than here. While it's of interest to us, we'd need to form our own alliances here if we were to broaden our range of goods beyond the traditional Acorn range, and sell complete "education solutions", but I'd rather be an Acorn company selling Acorn products. We're watching the success of Xemplar closely, but we'll be focusing our efforts on selling Acorn products, as long as that continues to be successful.'

Xemplar's concept of the *media range* fits into our marketing philosophy perfectly

New Zealand innovation

It seems fitting that Acorn New Zealand should be so loyal to the Acorn brand, especially when you consider the number of technological contributions the company has made to the market over the years. The attitude of management has been very much along the lines of 'if nobody in the UK will produce this solution for us, we'll do it ourselves'. A throw off from the sheer difficulty involved in communicating with the UK across huge distances and a time difference of either 11 or 13 hours, depending on the time of year.

There are plenty of examples of Acorn New Zealand doing it themselves, such as the FSLock chip that fits into the fifth ROM slot in the A5000 to produce a lockable hard drive, the code from which was included in RISC OS 3.5; or the BBC Masters with built-in floppy drives that satisfied customer demand for internal 3.5in disc drives; or programs like *TAP*, written by Acorn staff to cater for the lack of an assessment package for use in the classroom.

It's also thanks to Acorn New Zealand that programs like ANT's *Internet Suite* come with a large number of scripts for New Zealand Internet Service Providers which otherwise wouldn't have appeared.

This Acorn-friendly attitude is also prevalent among the numerous user groups throughout The Land of the Long White Cloud.

'We have several very switched-on user groups all over the country,' says Doug, 'and we're trying to persuade the Clan to broaden its appeal to an international level. The Clan is working over here and there are lots of people on the mailing list, which goes to show how strong our enthusiast market is.'

And the bottom line? Acorn New Zealand isn't going away, and has learned some valuable lessons from the near-demise of Acorn Australia, not to mention a new-found optimism stemming from the re-organisation and developments in the UK.

'It was extremely gratifying to go to Acorn World and see a large number of wonderful new products on display,' says John, having just returned from a trip to the UK.

'There are a huge number of software companies out there supporting the marketplace and it's important to remember that good software is the key to our success and fits in with us re-focusing on our strengths in having excellent curriculum-based software.'

'Acorn New Zealand is doing well again at the moment,' says Doug. 'It's hard going, but we're making money. We've been through a bad year, but the reorganisation has allowed us to become profitable again. New Zealand is quite an advanced *user* of technology – not such an advanced *producer* – and Acorn fits into that very well. It will continue to do so for some time to come.'

Acorn New Zealand has its own Web site at http://www.acorn.co.nz/ 

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Unravelling

Steve Turnbull looks at the current state of development in the Acorn market and makes some guesses

There is so much going on in the Acorn world that sometimes it's hard to get a clear picture of where ART is actually taking us. There have been hints so let's take a look at what's been happening and how it may tie together in the end.

What happened to Hydra?

Just before the enthusiasm about the StrongARM really took off another hardware achievement hit the Acorn market, Simtec's Hydra.

This innovative board allowed up to five ARM processors — but not a StrongARM — to be plugged into a single Risc PC and contained basic software to allow specific sub-tasks to be assigned to an individual processor which could then carry out the task autonomously.

Potentially five tasks could be operating at any one time — real parallel processing rather than the cooperative multitasking we've had since RISC OS 2.

However it was only of any use to software specifically programmed for it and that software wouldn't work on non-Hydra machines unless a separate version was created.

Also the crucial area of the operating system itself was not covered, while it would be feasible to rewrite sections of RISC OS to work with the Hydra this would not be a trivial task and required Acorn's cooperation.

Then came StrongARM offering more power in a single plug-in chip than the entire Hydra board and Acorn only had to upgrade certain areas of the operating system to make it work successfully.

The programmer's interface for the Hydra was just too complicated and unfriendly, the need to create two versions of any software implied annoying expenditure of time and resources — so the multi-headed monster was forgotten in the rush for the slick mono-headed beastie.



Multi-threading: The Module

In another part of the Acorn world Neil Carson, driving force behind Risc BSD — a public domain version of the UNIX operating system — wanted RISC OS to multi-thread just like every other major OS.

Multi-threading is a fairly simple concept, just as multi-tasking is the ability to run more than one program at a time, multi-threading is the same sort of thing but within a single program. A thread is an execution unit, all programs have them — usually just the one thread.

But potentially a program could be doing more than one thing at a time within itself, one thread could be monitoring keyboard or mouse input while another is updating the screen — or, if you consider that updating a RISC OS screen involves redrawing one or more rectangles, a program could spawn a redraw thread for every screen rectangle it has to update.

Creating a multi-threading application is no easy task on a system that has no fundamental support, however adding the ability to use threads is a simple matter of creating a Threads module.

And that's exactly what Neil did — he wrote a 16K RISC OS Threads module and then released it.

Even though there is a slight speed penalty running threads on a single processor it can speed up a program's response to user commands by providing a constant monitor. On a multi-processor it comes into its own which is where the Hydra rears its multiple heads once more.

Although the current Threads module will not work on the Hydra, development continues and, hopefully by March 1997, it will be Hydra compatible.

Suddenly the Hydra becomes a much more attractive proposition for developers. Now they need only create a single version of their software, utilising the Threads module. If there's no Hydra present on the machine the software will work in threads that get switched across the single processor, but if there is a populated Hydra available suddenly the speed of execution will increase in leaps and bounds.

Taking the example of Spacetech's *Photodesk 2* the filter operations, such as edge-detection, work on an original version of the image and generate a new version. In its current state it has one thread which looks at each pixel in turn deciding what it should be changed to. But with threads the program can spawn four execution units, each of which will handle a quarter of the image. Of course it

the threads

would be useful to enquire of the system how many processors are available because then the program could decide on the optimum split. But given four processors the system would be four times faster — and given four StrongARMs it is potentially 20 times faster than a Risc PC 700.

But the Hydra can't handle StrongARMs.

Risc PC II: The Sequel

Peter Bondar has been tempting us with a description of what he envisages as the next generation of Risc PC — gone is the CHRP machine with ARM/RISC OS as an add-on — the incredible success of ART during the last year has meant that RISC OS can be developed with confidence.

So what will this new machine have, or rather, what *might* it have? Mega-loads of VRAM for those people who want unbelievably high resolution in 16 million colours — it would be useful for laying-out a magazine. Ultra-fast data bus for carrying information to and from the main memory, the current Risc PC manages to support its processor, very well but the bus becomes a bottleneck for the StrongARM — it's not as bad as was expected but it could be better.

Creating a multi-threading application is no easy task on a system that has no fundamental support, however adding the ability to use threads is a simple matter of creating a Threads module

And then of course, there's the two (or four) processor slots for inserting your two to four 300MHz StrongARMs. Now that one could slide by you if you weren't looking for it — up to four StrongARMs sitting in a machine with an operating system that isn't designed for multi-processors?

Take a step back, pause for a moment and it all becomes clear. Acorn are rewriting RISC OS to run on multi-processors and will undoubtedly use the same programmer interface for their Threads module — if not actually the same module — and suddenly it becomes crystal clear that makers of high quality software need to redesign to use Threads because, come the revolution, non-multi-threading software will be left far, far behind.

For those who won't be spending money on a new machine (or a new motherboard for the existing Risc PC as that's what ART may well offer) you could just upgrade to a Hydra add-on and, with the Threads module, still get the benefit of faster execution.

Cup of Java or Mocha?

The need for threading becomes all the more prevalent when you look at the language of the Internet age: Java. This is a language that's similar to C++ in concept but is designed to operate across the Internet and to be as platform-independent as is realistically possible.

Let's suppose a DTP application written in Java needs to display a type of graphics it's never seen before — an *ArtWorks* file perhaps?

Along with the file there's the *Internet* address of the Java code that can render *ArtWorks* files, so the application just requests it, across it comes and suddenly this DTP application, whether running on a PC, a Mac, a Risc PC, a VAX machine or, indeed, anything, has the ability to put *ArtWorks* files into frames on the page.

This concept is not as far-fetched as you might think, the big US corporation Corel recently released their Office Suite software, written in Java. And the software will work on any machine that runs Java.

But Java needs multi-threading — the language has that capability and uses it itself extensively — hence the machines it runs on must have it. With the module created by Neil Carson, the writers of Java for RISC OS no longer need to go through the nasty convolutions they've been working on in order to achieve the necessary result.

However it doesn't end there, Java also really needs floating point support as well. Peter Bondar has stated explicitly again and again that the Risc PC will never have floating point hardware, though I'm sure he could change his mind if he wanted to...

The Floating Point

The NetStation — as created by Acorn — currently uses an ARM7500, which as we all know does not support floating point in hardware. But in the future it will have an FE suffix which means that it does have floating point hardware, as will the *strong* equivalent from Digital. This is good news, at least Java will run fast on them, if not on the machines that ART sells to us — although a new version of the A7000 may well use one of these chips. But the Risc PC won't — is there any justification for this? Well ART do have one, and it's called a Piccolo.

One of the TLAs (three-letter acronyms) that's being bandied around more and more is DSP, which stands for Digital Signal Processor. It's a processor designed to perform a series of identical operations involving multiplies and adds on each element of a block of data.

If the block of data was a sound sample you could program a DSP to multiply every element by two, hence increasing the volume of the entire sample. So the Piccolo is one of these.

When the ARM instruction set was first designed it incorporated the ability to have additional instructions for up to 16 other specialist processors. The first was the Floating Point processor — only ever partially implemented in the Floating Point Accelerator — but now we have the Piccolo.

A Piccolo shares the instructions with the main processor and just carries out the ones that apply to it, and they share the same data bus. All the Piccolo instructions are part of the main instruction sequence.

With a Piccolo applications which involve processing a lot of digital data, video, audio, still images, modems and so on can be designed. However it just so happens that floating point calculations also involve this kind of highly repetitive processing. So while a DSP isn't a floating point processor, it can be used by a floating point emulator to produce very fast answers.

As a side issue, with a DSP it's possible to carry out a very large number of three-dimensional transformations in an instant — which makes 3D modelling applications very attractive on a Piccolo-equipped machine, and would allow some totally mega games.

It seems to me that Peter Bondar is putting forward the Piccolo solution for the Risc PC II because it will make floating point calculations acceptably fast — though I suspect there will be those who will never be satisfied unless they have a complete chip to do that work — and it provides amazing benefits in other directions.

The only question I have then is: Will there be a Piccolo for every StrongARM? AU

Giving and receiving

David Matthewman introduces the subject of servers in this issue's HTML tutorial

Up to now in the tutorial, I've been more or less assuming that the HTML written would be sitting locally on your hard drive. While it is perfectly reasonable to use HTML in this way, it is a fact that an awful lot is written to be used on the World Wide Web over what those awful Intel adverts refer to as 'Your computer's Internet link'.

How does that work then? What happens is that the browser on your machine (*ArcWeb*, *Fresco*, *Webite* or whatever) sends an HTTP request (HyperText Transfer Protocol) to another machine on the Internet, which sends back a Web page, image, archive or whatever.

Clients and servers

In more general terms, the machine making the request is called the *client*, and the one answering the request and sending the page is the *server*.

The most familiar form of client is a Web browser, but there are others. For instance, there are programs designed to automatically request and index pages across the Web – search engines such as the one at *AltaVista* use these. They are also 'clients', technically speaking. However, for the purposes of this series, I mean Web browsers exclusively when talking about clients.

A server runs on a machine and basically sits there sending out Web pages all day. Internally there's more to it than this – which will be touched on later – but from the point of view of the person browsing the Web, that's what a server does.

Most servers run on Unix machines and will probably continue to do so for the forseeable future, but there are two Shareware and one Freeware servers for Acorn machines. Because your machine really needs to be on-line all the time (you never know when people are going to want to look at your pages) this is usually only useful if you have an Acorn machine permanently connected to the Internet.

Nonetheless, some Web sites *are* served from Acorns – Stewart Brodie's, at http://delenn.ecs.soton.ac.uk/ is one example – although again, from the point of view of the browser it makes very little difference *what* the server's running on.

The third element in this is the connection itself, down which both the request and the data are sent. Although the connection can basically be seen as a pipe down which data flows, it's often important to remember that there *is* a step between the server and the client. After all, the connection may run half way round the world and – the Internet being what it is – it's unlikely to take the most direct route.

How the data flows between client and server

Server-side software

Usually, the server simply receives a request for a page and sends it, with no fussing (by 'a page' I'm referring to images, embedded data and even archives here; any data that can simply be sent). However, sometimes the server may do much more than this. Before it sends the page, the server may pre-process it looking for 'server-side includes' – embedded instructions in the page that tell the server to add other HTML files or run specific programs.

The server can also be instructed by the client to run certain software and send different pages accordingly.

One example of this is image maps. Here, the server is sent co-ordinates of a point on an image and the location of a map file. The *Imagemap* software on the server (which may be a separate program or simply a routine within the server itself) decodes the co-ordinates using the map and sends the URL indicated.

The image map decoder is a specific example of a general group of programs called CGI scripts (Common Gateway Interface). A CGI script is simply a program run by the server whose input is taken from information sent by the client and whose output is sent back through the server to the client. CGI scripts are not tied to any particular language or platform, although most are written in Perl (or C/C++ for complex scripts or where performance is at a premium).

I'll be looking at CGI scripts in a little more detail next issue, when I look at forms (in fact, it's impossible to cover forms properly without talking abut CGI scripts). AU

Acorn server software

These programs are available from the page:
http://ftp.dsse.ecs.soton.ac.up:8080/ftp/freenet/

- Deltanet, by Chris Poole (Shareware)
- HTTPserver, by Stewart Brodie (Freeware)

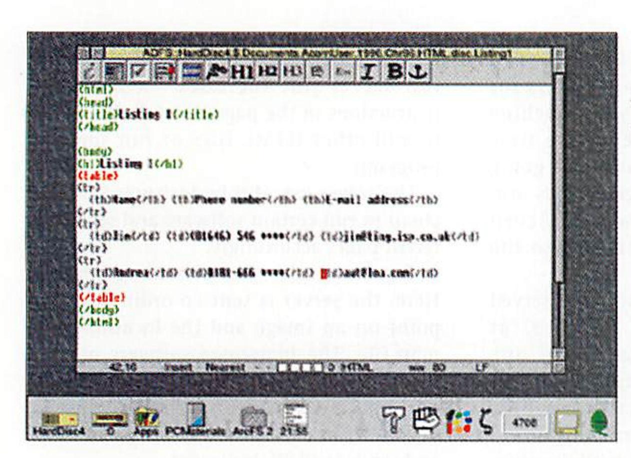
and from:
ftp://ftp.demon.co.uk/pub/mirros/hemsa/micros/arch/riscos/e/e144/

- NetPlex, by David Thomas (Shareware)

Designed to wo



David Matthewman looks at five free or nearly free applications for the Acorn Web designer



Now you can edit HTML in *StrongEd*, too

StrongEd

Author: Guttorm Vik
Status: Shareware (£10)
WWW: http://logon.eunet.no/~guttorvi/strong.html

Surprising as it may seem to *Almanac* users, Stallion Software did sell a stable, useful, reasonably-priced piece of software – called *StrongEd*. This same program (much updated) is being distributed again by its original author, Guttorm Vik. A recent version was on the last *Acorn User* CD-ROM and an even more recent version on the CD-ROM that came with the StrongARM upgrade. Both these versions are significant in that they contain an HTML mode, written by Andrew Black.

There are several similarities between the *StrongEd* HTML mode and the *Zap* one, just as there are between the two rival text editors. Both perform syntax colouring of HTML, both are not WYSIWYG in the slightest, and both are wedded to upper case HTML tags (I'm not myself, but I'm quite up for a spot of hacking, so that's OK).

StrongEd's mode is far more inte-

Imagen

Author: Justin Fletcher
Price: Freeware
WWW: http://users.essex.ac.uk/gerph/

Imagen is an image map editor. What's an image map? It's an image on a Web page which when clicked on in a particular area takes you to a particular URL. More precisely, the image map itself is a text file which lists the URL for each area.

Acorn used to have one in the shape of a signpost on its home page to take you to the various divisions – it's now replaced this with a much more conventional navigation bar, but I guess that's what happens when you become a respectable computer company and start wearing purple flack jackets.

Stuart Halliday told you all about image maps in the December issue, so I'll not go into great detail, but they are a popular adornment to many Web pages. The idea of pointing and clicking at various areas on an image to get to different parts of a site is highly intuitive. That is, it's intuitive if the people browsing the page have graphics turned on; it's worth providing an alternative text-only set of links in case they don't.

Before *Imagen* came along, there were two basic choices for creating image maps: do it by hand or use a non-Acorn machine. Thankfully, *Imagen* makes both the painful alternatives redundant. Creating an image map in *Imagen* is done by dragging a GIF to the program, and then drawing rectangles, circles and polygons onto the GIF. The user interface for this part is about as basic as it can be, and it would have been nice to see editable handles on the shapes and some way of selecting multiple shapes but that's a minor gripe.

Imagen saves in all three standard image map formats: NCSA, CERN and the client-side HTML. Now that *ArcWeb* understands client-side image maps, it's worth saving out one in this format (as well as NCSA, not instead of it), because pages can then be tested locally without having to use a server. Otherwise, most servers expect NCSA-formatted image maps.

There's not a lot else to say about *Imagen*, except that it's very useful. It's being developed quickly by Justin, and a much-improved Shareware or commercial version is promised soon.

Imagen, the only choice for image map editing on the Acorn so far

InterGIF

Author: Peter Hartley
Price: Freeware
WWW: http://www.ant.co.uk/~peter/software/intergif.htm

InterGIF is another program which has been a long time coming to the Acorn market. It's a sprite to GIF convertor. 'Oh, but we've got several of those already!' I hear you cry. True, but *InterGIF* will do what none of the others will do – create animated GIFs.

This isn't really so surprising. Animated GIFs are simply GIF files containing more than one image, something that Acorn owners have taken for granted for ages with the sprite format. *InterGIF* takes a sequence of sprites in a file and converts them to an animated GIF (it will convert the other way, too). Unfortunately it is something of a batch conversion; a global frame delay only can be specified, not one for

rk

grated with the program than *Zap's*. Buttons appear on the button bar to allow a number of tags to be entered and there are more options integrated into the *StrongEd* menu. Having said that, *ZapHTML* wins on the number of tags that can be entered automatically, and does more sensible things when entering tag pairs. *ZapHTML* is the most productive way to write HTML that I've yet found on any platform, but if the *StrongEd* HTML mode were just to support a few more tags it would run it pretty close.

I'm a *Zap* fan anyway, so I'm almost bound to prefer *ZapHTML* to *StrongEd's* HTML mode. However, if you're a *StrongEd* user and used to the way the program operates, I can heartily recommend getting hold of a version with an HTML mode. Now all we need is a *StrongHelp* manual for HTML – perhaps I should write one?

WebLint

Author: Sam Kington and Neil Bowers
Price: Freeware
WWW:http://grelb.src.gla.ac.uk:8000/~sam/acorn/weblint/
Requirements: The Perl interpreter (available from HENSA)



Feedback from both *WebLint* and *HTMLCheck* – generally *WebLint's* warnings are friendlier

HTMLCheck

Author: Tom Hughes (and others)
Price: Freeware
WWW: http://www.compton.demon.co.uk/
Requirements: Acorn's DDE is needed for the front-end

And finally – two programs that do more or less the same thing: check the syntax of your HTML. *WebLint* is a port of a commonly used Perl program with a well thought out RISC OS front-end. *HTMLCheck* is a port of a mini-set of Unix programs which run in the Desktop via Acorn's DDE. DDE isn't actually needed, because *HTMLCheck can* at a pinch run from the command line, but I really wouldn't recommend it.

With both programs, a file (or group of files) can be dragged to the icon bar, and the programs will check them for HTML syntax, reporting any errors in a throwback window so that you can go straight to the offending line in your HTML source.

Of the two programs, *HTMLCheck* is the faster by a factor of three or four times for most operations I tried. This will be highly significant for people checking and re-checking large Web sites on slower machines.

WebLint however, is the easier program to use. Its massive configuration dialogue box allows the fine tuning of options required in a user-friendly manner. And unlike *HTMLCheck*, it will warn about such things as not giving width and height attributes for images. If speed is not a prime concern, I can recommend it highly.

Both programs are agreeably picky, and found a lot of genuine mistakes in my own HTML. Often, the things that the programs spot wouldn't stop the HTML displaying correctly in most browsers, but might cause problems when editing the file later. Either program is well worth having to hand when writing HTML.

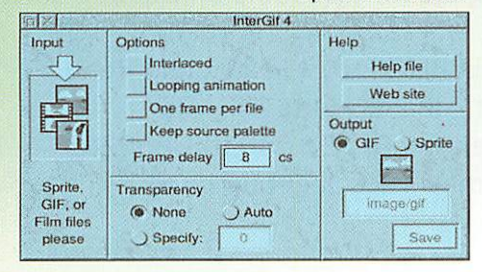
individual frames, and there's no way of setting X and Y offsets for smaller frames in the sequence. However, at least animated GIFs can be created in the first place.

At this point, I should state my favourite maxim regarding animated GIFs: *the only good animated GIF is a dead animated GIF*. I find them heavily over-used on Web pages. Designers use them to create impact, but it's all too easy to draw the eye away from potentially important content on a page to a cool but meaningless picture of a globe spinning. Browsers that can't display them (*ArcWeb*, for starters) often don't display anything in their place. Many browsers that *can* display them do so at the expense of performance, and they can take forever to download. I've even known one person who should have known better try to use one as the background to a Web page – no thanks!

If you've survived this rant and still want to use animated GIFs (and I might concede that it's possible to use them well; there are a *couple* on pages I've designed, after all), then *InterGIF* is an essential piece of software. It's quite useful even for creating static GIFs as it does this very well.

Incidentally, although Peter works for ANT Ltd, this is a totally independent piece of software.

Creating an animated GIF from a sprite with *InterGIF*



Correction to last month

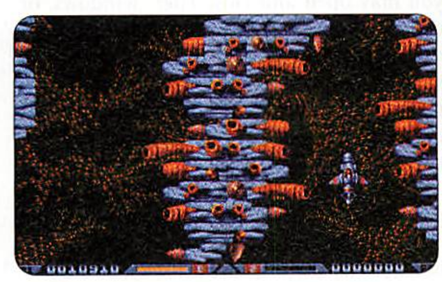
I blame the flu, but for some reason a couple of blatant errors crept into the listings last month. For a start, there was a spurious **** tag in place of the last **</td>** tag in each listing, and the listings on disc were missing their initial **<html>** tags. AU



Xenon II

Andrew Booker





This exclusive *Acorn User*/VTi update by Stephen Harrison has been modified to work correctly on the StrongARM and use 16-bit sound on those machines that support it.

Plus it now has four or eight channel operation with extra sound effects in eight channel mode and high quality music and effects on all machines.

The new version runs full screen on Risc PCs and VGA/SVGA monitors, at the correct game speed — monitor detection is automatic, with manual override. The VGA support requires 2Mb and preferably ARM3 or better.

To run *Xenon II* on a 1Mb machine you must be in Mode 12 and have no other programs loaded. Your font cache must also be set to zero K.

The program can be installed on hard disc simply by copying it across.

Keys

Ctrl+Escape – Exits back to the desktop

Escape – Back to the intro screen

Two sets of control keys are available. Press either 1 or 2 when the game starts. The default selection is set 1.

	Set 1	Set2
Right	X	X
Left	Z	Z
Up	'	;
Down	/	>
Fire	Return	"

If you find that the game unexpectedly returns to the intro screen or the desktop, it may be necessary to use the second key set.

The second key set is designed for use on A30x0s, A5000s, Risc PCs and later computers because these have a new keyboard controller that can cause the first key set not to work correctly in some situations.



VGA monitor

This version now supports VGA, SVGA and multiscan monitors correctly, using Acorn's GameModes module. VGA monitor detection should be automatic, however if you find the game is running very fast, in letterbox mode, you can alter the !Run file inside the !Xenon2 application (Shift+double-click !Xenon2) to always use the VGA setting. Load the !Run file into an editor for more information.

Xenon II requires 2Mb to run in VGA mode, if you are using a 1Mb computer and a VGA monitor, edit the !Run file to always load Xenon II in TV resolution.

Better audio

Using the QTM music player for the in game music and sound effects improves the quality and range of sound effects, if you wish.

The default settings are the same as the original release of *Xenon II*, where four of the computer's sound channels are used for music and samples together.

This setting can be altered to eight channels, by simply changing the number in the !Run file. The eight channel setting uses four channels for music and four for sound effects, enabling lots more sounds to be heard in the game.

However, using the game in eight channel mode uses more processor time, so an ARM3 or later processor is recommended.

The quality of the music and samples can also be changed. If you are using a faster machine, like an A5000, you may want to increase the quality of the sound, this can also be done simply by altering a line in the !Run file.

Double density installation

Xenon II has been supplied with the magazine on a high density floppy disc. However you can run the game from two low density discs if needed — either by making two DD floppies from the HD version on a machine that can read HD or by sending back the HD disc to the address given below.

To make your own you will need two blank 800K-formatted discs. Label the discs *1* and *2*.

For disc 2: Copy the directory *Levels*, from inside the !Xenon2 application, on to disc 2. This disc is now complete.

For disc 1: Create a new directory called !Xenon2, on disc 1. Open this directory (Shift+double-click) and the original !Xenon2 application, and copy the entire contents ,except 'Levels', from the original into the new disc 1 directory.

The game is now ready to be run from two discs. You will be prompted to insert disc 2 when it's required.



Can't read HD discs?

You can have your Xenon II HD disc replaced by two DD discs by returning the original to: *Xenon II discs, Acorn User, IDG Media, Media House, Adlington Park, Macclesfield, SK10 4NP*





!Split

Adam Hamilton

!Split was written to ease the transportation of large files from one computer to another. No attempt to compress the file is made, as it is assumed this has already been done. *!Split* will split a file into a number of smaller files, and will join them again when required.

It can be started either by running the application directly or by double-clicking on a split file, see section on joining files.

The iconbar menu

Pressing the menu button on the iconbar icon will display a menu:
Info – This displays information about the program
Autoload – When joining files, if this option is selected, *!Split* will automatically attempt to locate the next part to join.
Faster – If selected, the multi-tasking window will not be updated with bytes read and written, making the operation faster.
Single Task – This option will toggle between single and multi-tasking.
Quit – This will quit the program.

Splitting files

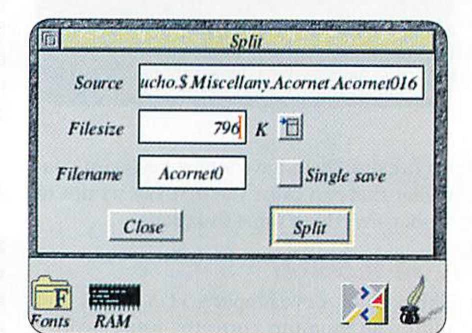
The split window can be displayed either by clicking on the iconbar icon with Select, or by dragging a file to the iconbar icon. The picture shows an example of the split window — you may open and close Filer windows, or change floppy discs between saving.

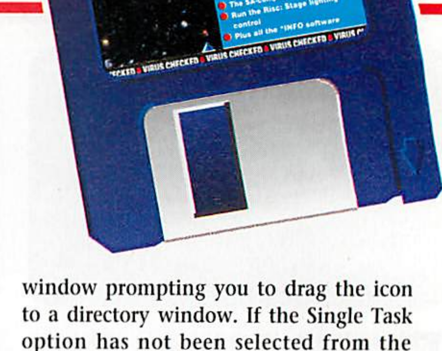
Enter the filename for the file you want to split, or simply drag the file to the split window. If you drag, the Filename field will automatically get filled in, although you can still change it if you wish.

There is a base filename to be used for each part the file is split into. Using the example above, the base name is RaveAler so the parts will be named RaveAler01, RaveAler02 and so on.

The maximum file size is given in K (1024 bytes) and is the size that you want each part to be saved as. You may either type in the size or use the menu for default sizes appropriate to various disc types.

Clicking the *Split* button will open a *save as* window prompting you to drag the icon to a directory window. If the Single Task option has not been selected from the iconbar menu, then a transfer window will be displayed and the splitting process will begin. If you only want to save certain parts, use the Skip button.





Joining files

The join window can be opened either by clicking on the iconbar icon with Adjust, double-clicking or dragging to the iconbar icon, a file of type Split. If you opened the window with the Adjust mouse button, you must double-click or drag the first file to the join window. If you maximise the join window you will see some short hints to help you along.

Once *!Split* has the first part of the file to join, you need to tell it where to save the joined file. Drag the file icon to the directory where you want it saved, or type the path into the text icon and press Save. Pressing Save without a full path in the text icon, will save the file in the current directory.

If the Autoload option is on, *!Split* will automatically look for the next part to join. If it is found, joining will continue, otherwise joining will be suspended and you will need to either double-click on the next part (filetyped as Split), or drag it to the join window or the iconbar icon.

If single tasking is not enabled, the transfer window will be displayed. The joining process will be aborted if Cancel is pressed and the window closes.

Full details are in the !Help file which also has information on customising the program to your own requirements.

Regular items

- Bucketloads of *INFO from graphics to games
- Mike Cook's Stage Lighting control program

Great Extras

- HTML Tools: Imagen, InterGIF plus the JFShared library
- The StrongARM version of the IClear module

Hive

Due to a lack of space we were unable to fit the extensive graphics for the Hive game with this issue — they will be included next month.

However if you are very impatient, and have Internet access, they are available on the *Acorn User* web site from this month's magazine page.



Disc information

The software on these discs has been compressed using *ArcFS 2* from VTi, and are opened by running a copy of *ArcFS* then double-clicking on the archive to open it. There is a copy of *ArcFS* on each disc.

Most software will run straight from the archive, but some programs may need to be copied out of the archive before being run, uncompressing them in the process. Any program that saves a file to disc, for instance, will be unable to do so into the archives on the disc.

Faulty disc?

If your disc is faulty, test whether it will verify by clicking with Menu on the floppy drive icon and choosing Verify.

If it fails to verify or is physically damaged you should return it to *TIB, TIB House, 11 Edward Street, Bradford, Yorkshire BD4 7BH.* If it verifies successfully return it to the *Acorn User* editorial office at the usual address.

The *Acorn User* cover discs have been checked for viruses using *Killer* version 2.500 from Pineapple Software.

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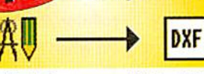
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E.&O.E 6th December 1996

A 'C'

Matthew Bloch
presents a tempestuous game for your enjoyment

On this month's cover disc, you'll find *Hive*, the game I've quietly been working on over the last couple of months, complete with sources for your perusal. In its current state, it could only be regarded as a prototype – to run at 50fps it requires a StrongARM. It also needs nearly 2Mb of hard drive space and generally lacks some of the programming rigour you might expect to see in a game.

But from the *outside* it looks just fine: double click on the *!Hive* icon, to get a slick, if limited version, of *Space Invaders*. Later, we can build in some compression for the sprites, and re-write some of the *Popcorn* routines in ARM code to make it playable on low-end machines. If you think it's too easy, too hard, too boring, I'll explain how to change every part of it.

My industrious servant

Programmers should know their limits, and mine don't go as far as being able to draw. The best solution, in these circumstances, is to find someone who can and ask nicely. In fact, *Hive* doesn't use much traditional 'drawn' graphics; most of the game objects were modelled, rendered and animated by either *POV*, *TopModel* or *3D Studio*.

Similarly, I'm no good with the sound system. It's complicated and not worth the trouble when the freeware *QTM* module will do the job quite competently. It uses barely 60K of module space and provides a SWI to play a chunk of memory on a particular sound channel, which is all that is needed for this game. It also leaves the option of adding in music later on.

Master of this design

Think about the parts of the game 'around' the main game loop. It's all too tempting to write a reasonable game and then tack a nasty front-end onto it. For instance, how is the player going to start the game and what options will there be? Since *Hive* is only a simple game, I've gone for an 'arcade machine' approach, where

Global variables used in Hive

*** Tables (struct object_table*) and their contents**

`ship_table`	an object table containing one object: the spaceship at the bottom of the screen
`missile_table`	any objects the player fires at the aliens
`alien_table`	the aliens in formation
`fx_table`	any special effects or objects which otherwise don't interact with the rest of the game
`alien_swoop_table`	aliens which have broken formation and aren't subject to the usual backwards-forwards motion
`alien_missile_table`	objects which the aliens launch at the player
`token_table`	for those spinning tokens which fly out sometimes

*** Boolean (TRUE/FALSE) values**

`quit`	quits the game if TRUE
`dirty_rotten_cheat`	activates all the 'cheat' keys, and makes the player invulnerable by disabling collision checking with `ship_table`
`hit_bottom`	set when the aliens shouldn't go any lower. Without it, they fly off the bottom of the screen

*** Integers**

`ship_pos`	a value which keeps track of which 'tilt' position the ship is in. See the `ship_handler` function for details
`ship_x`	is a COPY of the ship's X position, so that interested aliens can make a bee-line for it. The ship's Y position is always 255<<12
`fired`	number of 'normal' shots the player has fired; this is incremented when the player shoots, and decrememted when a bullet hits an alien or goes off-screen
`max_fired`	maximum number of shots the player can fire
`fire_freq`	the minimum amount of time (in hundreths of a second) before the player can fire again
`fire_again`	a value which is decremented on every frame; when it reaches zero, the player can fire. When the player does fire it is set to fire_freq, to introduce a delay before he can fire again
`special`	The special weapon number, triggered by space. Set to zero if none
`wave`	the game's current state; 0 means 'title page', -1 means 'game over screen', anything else means the game is being played on that wave
`aliens_left`	number of aliens left on screen; when this becomes zero, the next wave comes on
`last_killed_at`	the clock value when the last alien in a wave was killed. This is -1 normally, but after `aliens_left` hits zero, it is set to the current time. Four seconds after this time, it is set back to -1 and the new wave appears

The player's score

`hi_score`	Hi score, saved to disc after the game if it is beaten
`lives`	Lives left; it is inclusive, so 1 means the player is on his last life
`next_life_time`	Set to the current clock value when the player has been killed, so that the new ship can come on a moment (2.5s) later
`invulnerable`	The number of frames of invulnerability the player has left; this is decremented by `ship_handler` on every frame until it reaches zero. Since the game runs at 50Hz, a value of 500 means 10 seconds of invulnerability

part 3 breeze

you press one button to start the game, play the game, and press the same button to start it again. We needn't bother with a hi-score table; just a single 'best score' will do, which is saved to disc. The player can stop a particular game with escape and return to the desktop with Ctrl+Escape; it's worth keeping these standard keypresses for continuity with other games.

These design ideas have to fit in, somehow, with the way programs are written based on *Popcorn*. Because of its object-orientated nature, the library calls for the same sort of event-based programming used under the desktop. The main() function, in c.game, is only a few lines long, and only one thing is done outside of the main game loop, which is to call the game_initialise() function.

Its job is to load all the resources and prototypes into memory and start the game off in its initial state, waiting for the player to start the game. I've listed the global variables and their purposes above; they're all defined in h.game for the other source fragments to include.

After this, the main() function follows the usual animation loop, processing every table in turn, calling handlers and so on, until the quit variable is set to TRUE. The game's state is controlled by the 'wave' variable. The game_initialise() function calls wave_initialise(0) which reads the wave definitions from !Hive.Data.WaveX, where X is the wave number. The wave files follow a simple format: the first line is the full path of the backdrop to load for that wave, and each subsequent line should follow this format:

```
<Prototype ID> <x> <y> <xv> <yv>
```

The wave_initialise() function will read each of these IDs and create the relevant one in the alien_table at the specified position. Wave zero consists of one object: the 'TITL' prototype, which is the enormous 'Hive' graphic, plotted at the top in the centre. This has its own handler, title_handler (defined in c.game), and the attn_plot flag is set.

This means that after the title has been plotted, the handler is called to plot the 'PRESS SPACE TO START' prompt. Also, the attn_every flag is set so that when the user does press space, the TITL object deletes itself, creates the 'SHIP' object (i.e. the player), and calls wave_initialise(1) after resetting the player's score and number of lives.

There are a few waves supplied on the cover disc, but not nearly enough to make the game complete: if you come up with any more, do send them on to me.

There is one object which has the attn_every flag set which is initialised at the start of the game and never deleted. *misc_every_handler* is the handler which picks up on events which aren't handled directly by handlers. For instance, it calls *check_new wave()* which will handle setting up a new wave if all aliens have been killed. The handler has the attn_plot flag set; it uses this to display any necessary text on the screen. Be sure that when plotting anything on the screen, it *shouldn't* be done with the attn_every flag, since this is called *every* frame, as opposed to whenever the plotting happens, which could be every other frame on some machines.

In this way, we've implemented the title page and 'GAME OVER' message as another 'wave', which is treated specially by some object handlers.

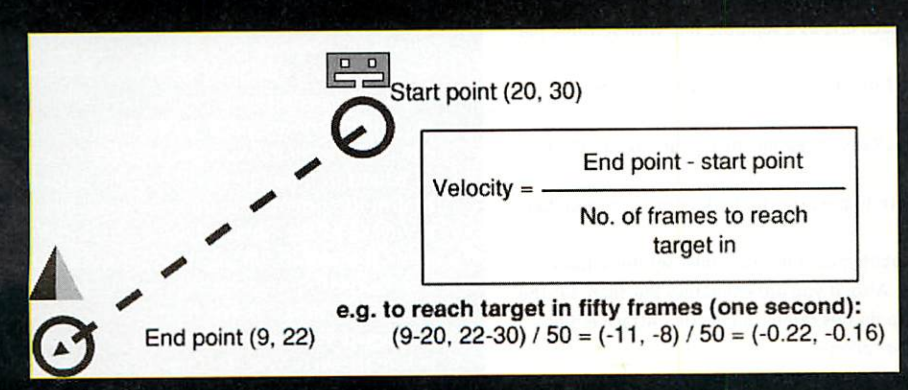


Figure I: How to make the aliens aim and avoid trigonometry

A thousand twangling instruments

The freeware *QTM* module fits in very conveniently with *Popcorn*'s resource manager, as can be seen by the size of the !Hive.c.sound file.

This makes three functions available to the rest of the game, one to start the sound system, one to stop it, and another to make a particular noise. The resource manager looks up the filename of a sample, which should be stored in

A 'C' breeze part 3

8-bit quality, 10416Hz (half the default RISC OS sample rate) and in the usual logarithmic format.

The two best freeware programs for converting samples between formats are called !SoundCon and !SampConv, and they are available from Hensa as packages d044 and a034. Although the latter is three years old, it still works under RISC OS 3.7. As for finding the sound effects, this requires less skill than doing the graphics, but it's surprising how hard it is to find *appropriate* samples. Some may say I've failed on this count, but again, if you don't like the samples, replace them with better ones; I've left *Hive* open-ended for tinkering with.

To fly, to swim, to dive into the fire

Most aliens in *Hive* have their own separate handlers; the source for all these is in !Hive.c.alien_hnd. They all, however, call the dull_alien_handler for when they go off the screen or collide with any of the player's projectiles, so that these events can be handled in the same way without duplicating code. To start with, each alien is given the same horizontal velocity. Then, when one alien from alien_table (that is to say the ones meant to stay in formation) hits the side of the screen, the handler reverses the velocities of *all* the aliens in the table, so they all move in an identical fashion.

The other aliens must call this on collide or gameout events to stay in formation, but other than this they are free to do what they like. For instance, bomby_alien_handler creates a 'BBMB' (blue bomb) randomly (1/1000 chance per frame = 1 per 20 seconds per alien), which is initialised with a random velocity, and is affected by the gravity of the alien_missile_table. This gives the impression of it being tossed downwards. The bigblue_alien_handler does the same job, just with a more lethal bomb.

However, laser_alien_handler is more vicious in that it *aims* several shots at the player's spaceship. This has the problem that we can't be sure where the player is or where the player's spaceship will be located in the ship_table. This is solved with a global variable, ship_x, which is kept updated by the ship_handler function. Inelegant, but it works.

Next, how do we aim a barrage of shots without resorting to trigonometry, and messy look-up tables? It's simple to do, even with polar geometry; take a look at Figure I. Once there is a velocity which will reach the player's co-ordinates in, say, four-hundred frames, it can be multiplied up for successive shots, creating a laser effect. Also, the 'LASR' prototype differs from the normal alien shots in that it isn't affected by gravity.

The most complex handler is the swoopy_alien_handler which makes the alien swoop down and then find its original position again. The way this is done is as follows, once the random element has decided that the alien is going to swoop:

• A new alien object is created in the alien_swoop_table, thus freeing it from the formation
• The alien object in the alien_table (in formation) is not deleted, but it has its std_plot and collide flags temporarily turned off. This means that it is invisible and can't be hit, but its position is kept track of as if it were still there
• The address of the invisible alien object is stored in the new alien object's user_data area and the new alien is given a random velocity, aiming downwards. Also, a five second timer is set
• Its behaviour is then to try to relocate its original position by increasing its velocity towards it. The new alien's velocity has a limit to it, as does its acceleration, so that it doesn't go back too quickly. When the timer expires, these limits are broken slightly so that it can get back more quickly rather than hovering
• When the new alien finds its original position, it deletes itself from the alien_swoop_table and then turns back on the collide and std_plot flags thus putting it back in formation

Epilogue

That covers it for this series. However, *Popcorn* is an ongoing concern as I'm working on something else with it. If you're interested in programming games, keep a close eye on my home page, *http://homepages.enterprise.net/mattbee*, where I'll keep details of what I'm doing to the library. Be warned that in its current state there are some memory leaks in the library, which occasionally cause it to crash. I'm ashamed to admit that I've worked around these problems to produce *Hive* and I'll try to release a fully debugged version of the library and game before the New Year. Feel free to contact me with your ideas; my address is in the help file on the cover disc. AU

A guide to creating your own space invaders

* Create a folder inside the 'Originals' folder with your alien's name.
* Draw each animation frame with a mask, saving each one as a separate file, with sensible filenames (0, 1, 2...); the sprite name doesn't matter.
* Run !MakePop to convert your sprites to Popcorn format; they will be saved inside the !Hive.Graphics folder.
* Add each frame of your sprite to the `!Hive.Data.Resources` file, being sure to add the ALIN tag onto the beginning.
* (optional) Write a handler for your alien, being sure to pass control back to `dull_alien_handler if`
* Create an alien prototype in the `!Hive.Data.Prototypes` file. You must set these flags: `std_plot collide velocities attn_gameout`. Also, if you are animating the alien, set the animate flag, and yoyo if you want the animation to do this rather than cycle. Attach either your custom-written handler or copy one of the other alien's.
* Write your alien into one or more of the waves by changing the appropriate `!Hive.Data.Wave` file.

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Slimline Siena

Take the world's best selling pocket computer – the Psion Series 3a (also known as the Acorn Pocket Book 2) – make it even smaller and lighter, add a wireless infra-red communications facility, a proper calculator keypad and make it more affordable. That was Psion's goal when it set out to design a Series 3a with wider appeal – the result is the Siena.

On paper it sounds fantastic. However, compromises are not absent from the Siena's specification. You don't get a built-in SSD (solid state disc) socket, there is no external power option, the Siena cannot be hooked up to Psion's new and faster 3Fax modem and the screen is only half the width of the 3a's.

The 3a and 3c have a natty sampled sound system and recording option but this was left out of the Siena. Instead there is a cheaper sounding beeper – you can't tone-dial phones with it any more but for alarms it is just as effective as before. The keyboard is slightly more fiddly to use and our example was prone to double-keying.

Instead, Psion has concentrated on preserving the 3a's primary strengths in the Siena while making it smaller and more affordable. The Siena really does fit into a shirt pocket, it has the same multi-tasking operating system as before and many applications designed for the 3a will work on it – screen width limitations aside. It will still run off a pair of batteries (AAAs this time) for 40 or more hours – my wife has used a Siena daily for two months before needing to change batteries.

Psion 3a owners will look in envy at the improved standard applications; like the new 3c – the database now has a list function, there is a quick notepad application and a better file manager. The Agenda diary/organiser now has a busy views mode, while the calculator can be used in the excellent traditional Series 3 algebraic mode or in conventional mode, complete with a virtual till roll which can be scrolled up and down.

The IrDA wireless infra-red port means 'beamed' information can be exchanged with another Siena or Series 3c user and also allows printing to IrDA-compatible printers. Other organisers, personal digital assistants (PDAs) and notebook computers are now tending to feature IrDA compatibility as well. Although there are no SSD sockets built in, an external SSD add-on is offered. A Type I PCMCIA memory card adapter is also promised.



Psion has a winner with the Siena. People who lusted after a Series 3a or a Pocket Book 2 but couldn't justify the cost, now have no excuse.

Ian Burley

Generation 3c

The Psion 3c is the latest version of the hugely successful 3 series launched in 1991. The 3c is fitted into a re-designed case and contains a number of enhancements to both the hardware and software.

The new case is very similar to the original, it is a slightly different colour and located on the hinge section is an Infra Red transmitter/receiver. The case also has new texture which is more rubbery than the previous one and in my opinion has a strange feel.

Once the machine is turned on you immediately begin to feel at home, even if the feel of the case is a bit alien. The first obvious difference between the 3a and the 3c is that all the application icons have been redesigned to give them more of a 3D look.

The 3c's applications suite consists of an enhanced *Data*, *Agenda* and *Calc* as well as three new applications: *Jotter*, *Files* and *SoundMaster*. The 3c also has a *Patience* game which the 3a had but the PBII doesn't.



The enhanced database now has a sort facility but only offers A-Z sorting which is quite primitive. There is also a list view option similar to that found in *DataView* etc.

Agenda now has a 'busy' view which is basically a monthly view showing all the timed appointments in blocks. It is quite similar to the old week view on the original *Schedule* for the PBI.

Calc has been updated to offer two modes of operation – working either as a scientific or a simple 'four function' calculator. Both offer the usual 'till roll' display so you can see what you have done previously.

The first of the new applications, *Jotter*, is a simple program for making notes which works in a similar way to a reporter's notepad.

Files allows easier management of files than when in the normal desktop mode. It offers tree and list views as well as a large number of file management options.

SoundMaster is identical to the version sold by Psion and allows editing and manipulation of sound samples.

The *Patience* game is quite a strange variant compared to the one I'm used to. It is very addictive and my flat mates kept borrowing my review 3c to play it.

The 3c's enhanced comms system now offers InfraRed communications and a faster serial port. The IR system will communicate with other Psion's and any printer that supports the IrDA standard. The serial port has a new style port requiring a new lead in order to connect it to a computer. At the time of writing, I don't know whether it will work with *PocketFS*.

Overall, the 3c is another superb machine from Psion, although I personally wish they hadn't changed the design of the case. If you already have a 3a or PBII the question is should you buy a 3c? All I will say is that I won't be trading in my PBII just yet...

Mark Taylor AU

Product details

Product: Psion Siena
Price: 512K model is £169.95 inc VAT and 1Mb model costs £229.95 inc VAT

Product: Psion 3c
Price: Recommended prices for the 1Mb and 2Mb models are £339.95 and £399.95 respectively inc VAT

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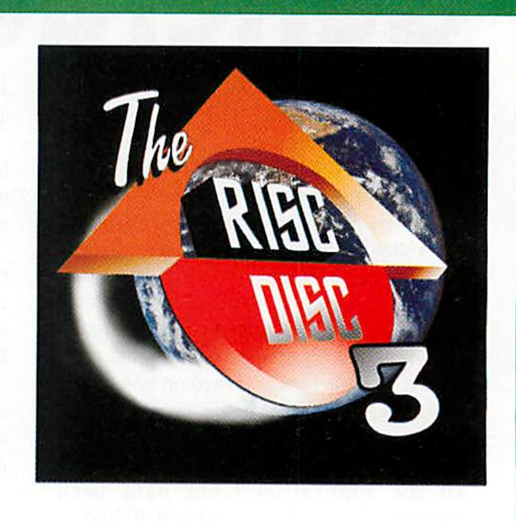
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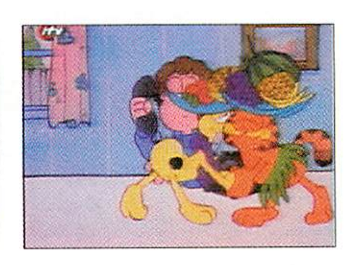
Rob Miller explains that RiscTV is much more that just another way of watching television

One of the latest 'gimmicks' that computer manufacturers have used to shift more boxes into the home market, is the ability to watch television on the computer screen. Just think of all the benefits. No need for a separate TV, er ..... well that's about it. In fact, looking at it another way, who wants to watch TV huddled around a small computer monitor (not everybody has the luxury of a 17inch screen), when they can sit and watch a nice, large purpose-built TV?









What is it?

Well, the best way to make something like this more useful is to throw in a couple of other features such as being able to digitise TV pictures or access teletext information, and this is exactly what Irlam Instruments has done with its RiscTV upgrade. For £298.45, you get a TV tuner and video digitiser, all on one single-width expansion card, with an optional teletext tuner that can be added later for an additional cost.

The card itself is a surprisingly simple design and requires just a couple of connections to install it in the computer. The way in which the card is designed is similar to Computer Concepts' Colour Card where the video signal from the computer is fed into the expansion card, manipulated in some way, and then fed out again from the card to the monitor.

In the case of RiscTV, the expansion card generates a video image (either from the built-in TV-tuner or from an external video source) and 'overlays' this onto the incoming signal from the computer. The resulting picture is then output from the RiscTV card onto whatever monitor is attached. One of the benefits of this is that the resulting video picture is always displayed in true colour (ie. 24-bit colour) no matter what mode the computer is in. Frame update is also very fast, even on the relatively old A5000, because the RiscTV card doesn't rely on much of the processing power of the host machine.

One rather strange effect of using this over-layed picture technique is that it makes the mouse cursor disappear whenever it is moved in front of the RiscTV window, plus the RiscTV window itself freezes whenever any other window is dragged in front of it. This is not a problem however, but it can be a little disconcerting to have the pointer disappearing at odd moments.

Sound from RiscTV is fed directly from the expansion card to the main circuit board, which allows it to be played back directly through the computer's speaker, or through the headphone socket on the back of the machine. Unfortunately, sound is only in mono which is due to the type of television tuner used on the RiscTV card. Nicam stereo tuners are becoming more and more popular in the domestic market so there is a fair chance that there'll be a Nicam add-on, or perhaps even a separate Nicam card in future.

...the expansion card generates a video image (either from the built-in TV tuner or from an external video source) and 'overlays' this onto the incoming signal from the computer

Setting it up

The software supplied with the RiscTV card is extremely simple to set up. Like most RISC OS applications, it's just a case of copying the relevant files from floppy to hard disc, although it can be run from floppy if you prefer. Because the software can only be used with the RiscTV card, there's no software protection as there is no point in copying it.

Once installed, double-clicking on the RiscTV application brings up a small monitor icon, similar to the Display Manager icon in RISC OS 3.50 onwards. From here, all the features of the RiscTV card can be controlled, plus the additional Teletext tuner if fitted.

Before watching any television, the tuner needs to be tuned to the required station. This is achieved by clicking on arrow icons inside the tuner window, until the desired station is displayed. This can be a bit fiddly, although there is a fine tune option and once the station has been selected, the position can be saved for use at a later date.

A few enhancements which would be useful are automatic tuning (which is found on most modern TV sets), plus more preset channels, although the eight supplied are more than enough for the 'terrestrial' tuner fitted to the RiscTV card.

Like an ordinary TV set, the RiscTV has audio and video controls. These can be saved in a similar way to the channel presets for later use. The audio choices window provides control over Volume, Balance, Bass and Treble, although the computer's sound output really needs to be connected to a hi-fi (or a pair of active speakers at the very least) to hear any discernible difference.

The video controls are also comparable to those found on a TV set, apart from Hue and Saturation which are similar to the standard Colour control. Like audio, the video controls can be adjusted to whatever

On the monitor

setting is required and then saved for use later on. In all cases, a set of defaults can be recalled to 'reset' the controls on the RiscTV card.

As well as being able to watch television pictures from the TV tuner, a video feed (VCR or camcorder) can also be connected, either through the composite video or SVHS inputs on the back of the card. Playback through the SVHS connector is especially good and I even managed to connect up a Sony Playstation and have the screen output displayed in a window on the RISC OS desktop!

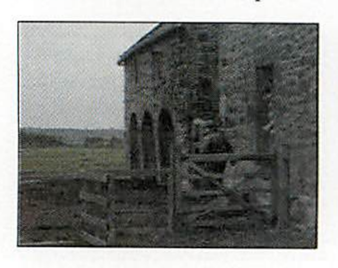
Grabbing images

Apart from viewing TV and video, the other main use for the RiscTV card is to grab or digitise still images. This is extremely simple, just click the middle mouse button over the Video window and save out the screen as a sprite. It's interesting to note that even though the video picture is displayed in 24-bit colour (no matter what screen mode you're in) the colour resolution of the sprite depends on what screen mode the sprite is grabbed in. For example, if you grab the video window in a 256 colour mode, the resulting sprite will have 256 colours.

At present, the software only outputs sprites although it would be quite feasible to change this to include other formats in future. In fact, after looking through the bit of code that saves the screen output, it would appear that the image is stored first as 24-bit data and then converted to whatever colour resolution the current desktop mode is.

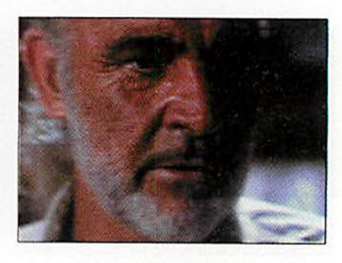
Grabbing just the picture is easy due to the fast frame update of the video window. With most so-called real time digitisers, you see the picture you want, hit the grab button, and then invariably end up with a frame that is at least two of three after the one required. With RiscTV, video is shown in real time on the screen, with very little overheads on processor time. When the grab button is hit, you get exactly what's on screen at that moment. Of course, you must have a reasonably good reaction time.

The quality of digitising is good although remember that the video source will have a finite resolution, so the best pictures will look as good as video stills from a decent VCR. Saying this, the output is fine for most applications, especially if the resulting pictures are scaled down in size. All the pictures shown in this article contain only 256 colours and are a good indication of what to expect.









In future?

The RiscTV card has been designed so that it can be expanded and upgraded at a later date and there is space on the circuit board for adding suitable connectors. Nothing exists as yet, but there are plans afoot for an MPEG decoder which will allow the user to view MPEG (type 1) movies such as those found on VideoCDs and educational CD-ROMs. This is (or will be) similar to Computer Concepts' now discontinued Movie Magic card but has the added benefit of being able to display films in a window on the desktop. This makes it ideal for uses such as Computer Based Training, Presentations and Point of Sale Kiosk's etc.

Other upgrades might become available, for example, Nicam tuners and sound samplers but really it depends on what the end-user wants. If you've already bought or are thinking of buying a RiscTV card, why not contact Irlam Instruments and make a few suggestions?

Playing back through the SVHS connector is especially good and I even managed to connect up a Sony Playstation and have the screen output displayed in a window on the RISC OS desktop!

Conclusion

The idea of being able to watch TV on your computer is all very well, but to be honest, I'd prefer to sit down in front of a 'proper' television without all the bits of computer hardware lying around. The ability to digitise the TV pictures and the fact that input can also be taken from either a VCR or camcorder however, makes the RiscTV card a far more attractive idea. Added to that, the optional teletext decoder and the promise of future add-ons such as hardware MPEG and Nicam stereo means it is quite a product.

At almost £300 (£298.45 inc. VAT) the RiscTV card does sound expensive, but compared to the price of a separate TV decoder and real-time digitiser it's not that bad. The RiscTV provides the basis for a complete video playback system, which incidentally takes up far less expansion space than the equivalent set of separate cards that would be required to do the same job.

All in all, the RiscTV is an excellent piece of hardware that could find a home in quite a number of Acorn machines. If the promised upgrades meet the same high standards with regards to hardware and software, the RiscTV card looks like it'll be a winner. But hey, it is! It's just won the Acorn User Award for Best Expansion Card of 1996. AU

Product details

Product: RiscTV – for A5000 and RiscPC
Supplier: Irlam Instruments Ltd
Address: Brunel Institute for Bioengineering, Brunel University, Uxbridge, Middlesex, UB8 3PH
Tel: (01895) 811401
E-mail: sales@irlam.co.uk
Price: £298.45 inc VAT + p&p



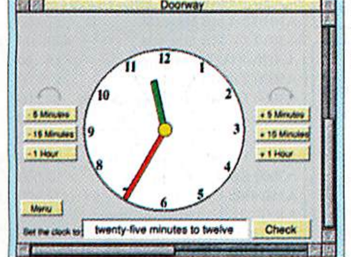


The open door

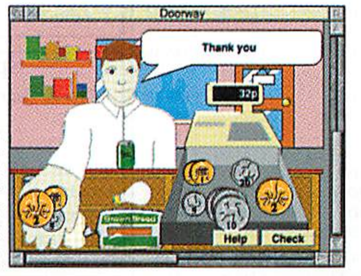
THE DOORWAY Classroom Pack by LTC (Learning Through Computing) has been available for some time as a set of ready-made multimedia applications which are viewed using the *Doorway Browser*. Apart from being very useful learning resources for Key Stage 1 and 2, they clearly demonstrate the power of *Doorway* as a multimedia tool.

Supplied on the two discs are the browser, some extra fonts and a folder of 14 multimedia applications. They are all well thought out, relevant and very well presented. It's difficult to pick just a couple of highlights from this pack, but *Clock* and *Supermarket* caught my eye, and perhaps more importantly, caught the imagination of my children who immediately took ownership of the software.

Clock offers four levels of difficulty, carefully graded to match national curriculum levels. The exercises include setting the clock and telling the time. In *Supermarket*, the user is the shopkeeper. A customer asks for an item and the shopkeeper must take it from the shelf and place it on the counter. The customer then offers the money and the user must count out the change. All of the applications are highly interactive with carefully graded exercises. These two alone justify the cost of the package.



Several telling the time programs are available



This program enables young children to carry out simple transactions in which change must be given

At the time of writing, the full authoring version of *Doorway* was not available but it promises a great deal.

Prices for the *Doorway Classroom Pack* start at £45 + VAT for a single machine and £90 + VAT for a site licence.

LTC, tel: 0131-662 1881 or e-mail: sales.ltcomp@argonet.co.uk or http://www.argonet.co.uk/ltcomp/

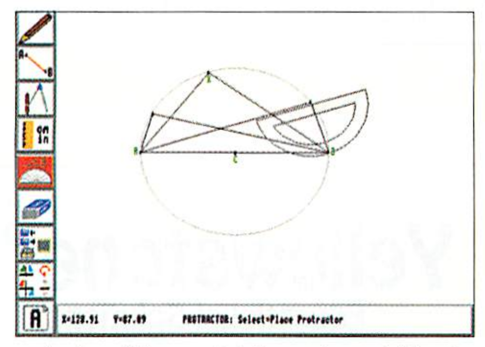
The right angle

AS A FORMER teacher of technical graphics, which included geometry, I was particularly interested to receive *Pappus MkII*, a complete re-write of the successful MkI version first implemented on the BBC.

It is a comprehensive drawing package which allows the user to create geometric diagrams in a mathematical way. It is effectively a geometry simulation which includes compass, ruler and protractor (or angle indicator, as I've recently heard it referred to as). Geometric constructions from bisecting a line to constructing polygons can be easily drawn.

Pappus will help pupils to learn and understand the mathematical properties of shapes. The manual takes the user through the various constructions in a clear and progressive way.

Computer Tutorial Services Ltd, tel: (01983) 294333, fax: (01983) 298439 or e-mail: software@ctsltd.demon.co.uk



Angles within a semi-circle are always right angle. The construction can be used for accurately plotting tangents and constructing right-angled triangles

Spreadsheet ideas

OF ALL the software used for the National Curriculum, I find devising relevant material for use with spreadsheets the most difficult. Anglia Multimedia have come to the rescue with *Spreadsheets Across the Curriculum*, a book of exercises and tasks for most areas of the curriculum including Food Technology, Science, Geography and of course, Mathematics.

On the face of it, £30 +VAT might seem expensive, but the book includes everything required for each module: teachers' notes, photocopiable worksheets and worked examples. Also included in the pack is a disc containing over 50 spreadsheet files for each of the exercises. Needless to say, the files are for Anglia's own *Key Calc* spreadsheet program. Perhaps they might consider producing files for other spreadsheets. Contact SCA, PO Box 18, Benfleet, Essex SS7 1AZ, tel/fax: (01268) 755811.

Not Sherston's Hodge Podge

FURTHER TO November's piece about *Hodge Podge House*, it wasn't Sherston's decision not to include Acorn users, but because AOL requires specially written software.

More training sessions

THE ADVISORY Unit: Computers in Education have announced a huge list of proposed courses for secondary and primary teachers. The list is long and so rather than attempt to duplicate their calander of events, I suggest that anyone interested in meaningful high quality INSET should contact the unit.

Tel: (01707) 266714, fax: (01707) 273684 or e-mail advunit@rmplc.co.uk

Contacting me

You can contact the Education page by writing to me, Geoff Preston at Acorn User, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP or by e-mail to: aueduc@idg.co.uk

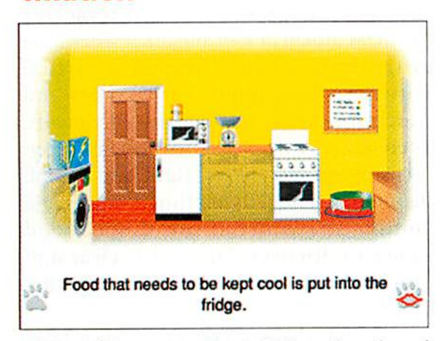
A BETTer show

The 1997 BETT exhibition promises to be the best ever. **Geoff Preston** looks at what Acorn users should find interesting

As usual, BETT will offer a diet of companies displaying and demonstrating some of their latest hardware and software plus a full programme of lectures and seminars on a variety of education-related subjects delivered by the experts.

For many Acorn-related companies this is the premier exhibition as it gives them an opportunity to show off their products to the policy-makers within Acorn's largest market sector – schools. Teachers from all over the country (and in many cases from overseas) will flock to Olympia to see what is on offer for the children they teach. Anyone who thinks Acorn is a spent force should take a look at some of the software which will be on show this year. Here are some of the highlights....

4Mation



The graphics are excellent. Click on the edge of the picture and you rotate to see the adjacent wall. There are several meaningful activities mainly for the core subjects

Patch the Puppy is 4Mation's first major product since Mike Matson left the company last year. This dual format CD-ROM is aimed at pre-school children and is sure to be a valuable resource both at home and nursery school. It is an interactive adventure set on a farm. Clicking on a object on the title screen takes you to that place. Clicking the mouse on a door takes you through the door and into a room. Clicking on the edge of the picture is rather like turning yourself through 90 degrees in the room enabling you to see the adjacent wall.

There are plenty of questions asked along the way and all the text is both printed and spoken in a clear voice. There are several simple tasks dotted along the way which are intended to develop basic skills in the core subjects; Mathematics, English and Science. These include counting items of food, sorting out the washing by colour and simple sequences.

There is a teachers' page enabling the teacher (or parent) to select certain activities and to load and save the place the child is currently at (eliminating the need to restart each time the program is run).

This is a very well thought out program with lots of appropriate activities covering a wide range of skills. It is sure to enthral children who use it.

In addition to the CD-ROM and the user guide, the pack includes four reading books. *Patch the Puppy* costs £39.50 + VAT.

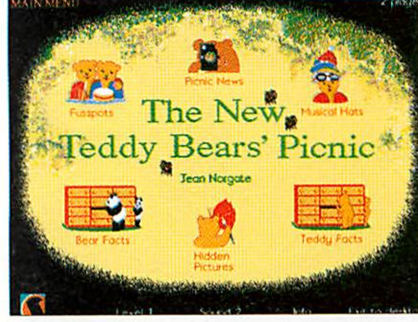
Also on show will be the rest of 4Mation's catalogue including the StrongARM version of *Vector*. For those unaware of *Vector*, it is a vector drawing program, similar to *Draw* and *ArtWorks*.

4Mation are on stand no 152.

Sherston

4Mation's loss was Sherston's gain when Mike Matson joined the company. His first project, *Rusty Dreamer*, gets a full review next month. The other major release from Sherston is *The New Teddy Bears' Picnic*. which is an activity program for pre-school/Key Stage 1 learners. It is on three levels with six activities on level 1 and five activities on levels 2 and 3.

All activities can be used with either one or two players. They are varied although all have the 'bear' theme running through them. The theme is not restricted just to teddy bears but also focuses quite seriously on real bears (and creatures who are mistaken for bears like Koala's).



There are six different activities, each developing a wide range of skills

There is a very useful Teacher's Page to control certain features of each activity including sound, date format and printing. There are also several keyboard key combinations which will enable the teacher to intervene. For example, at any point during a game Ctrl+T will go directly to the teacher's page. There is also a very helpful overview of each activity.

As with all of Sherston's software, there is a great deal more in the pack that just a couple of discs. Along with the manual is a booklet entitled Educational Ideas which is well worth reading to give both parents and teachers some ideas of how the material can be best used and how the work could be developed.

Also included in *The New Teddy Bears' Picnic* are worksheets which enable children to further learn about bears, explore colour mixing and carry out some elementary craft by way of card models to cut out and colour. There is also a reading book about the teddy bears' picnic. *The New Teddy Bear's Picnic* costs £32.95 ex VAT.

Look out also for The Sherston Clip Art Collection which was produced in association with DEC_dATA. This is not just another clip art collection, but a hyperlinked presentation as well. It provides a good deal of useful and informative text to accompany the pictures which, as anyone who has seen DEC_dATA's graphics will

A BETTer show

THE EDUCATIONAL TECHNOLOGY SHOW
BETT 1997

confirm, are slightly better that superb.

Sherston are on stand no 260.

Anglia Multimedia

The output from this company still astonishes me. With modern multimedia authoring tools anyone can put together a decent looking multimedia production. But to consistently output high quality in-depth material in this format takes time, skill and a good deal of careful financial management. So it's all credit to Anglia Multimedia for producing these excellent products carefully authored to fit the National Curriculum. Most are triple platform CD-ROMs developed using Anglia's own *Key Author* multimedia authoring software.

Romans, Viking and Egyptians are not new CD-ROMs, but are typical of the style: an interactive role playing adventure. The program encourages the user to investigate and explore the life and times of these fascinating civilisations.

Nelson and his Navy was released at about the same time as *Romans* and is another example of a highly motivating interactive program.

Among the new releases from Anglia Multimedia will be *National Trust: British Countrysides, Survival's Virtual Safari* and picture CD-ROMs. *National Trust: British Countrysides* is the latest joint venture between Anglia and a national body. Previous collaborations which have involved the likes of The National Maritime Museum and The Energy Foundation have proved extremely popular.

National Trust: British Countrysides is hosted by Tony Robinson and centres around many of the issues the trust has to deal with on a day to day basis – nature conservation, trees, tourism, farming, the coast, archaeology, historic houses and gardens. If you're involved in any of these topics at Key Stage 2 or 3, this CD-ROM will almost certainly prove invaluable.

Another new release shown for the first time at BETT are CD-ROM picture discs using Anglia's extensive archive

Survival's Virtual Safari involves navigating a 3D world in a mouse-controlled Land Rover.

The CD-ROM is based on a photographic safari. Upon landing in Africa the first task is to collect all of the items required (camera, film and car keys) before driving into the sunset where the savanna, acacia, the waterhole or the river can be visited. Here you operate the camera and take pictures of the wildlife. The best pictures will be displayed on Anglia's World Wide Web site.

Another new release shown for the first time at BETT are CD-ROM picture discs using Anglia's extensive archive. Initially five discs will be released on popular curriculum topics such as Settlement, Wildlife and People and Places. Each disc contains 120 high quality photographs with text which may be read aloud to the user. Each disc will cost just £9.99 each.

Anglia are on stand no 357.

YITM (Yorkshire International Thompson Multimedia)

In a recent SCAA report, it was claimed that the IT use in science was somewhat limited by the lack of readily available and suitable resources.

Presumably in this context, resources means software. If this is true, then there are several new programs which should address the problem. If you can choose only one, *Science Explorer* would be my choice.

Science Explorer is an interactive CD-ROM aimed at Key Stage 2 Science. The program is a tour through a virtual museum where pupils can wander and search for the 26 interactive experiments. There are seven galleries with the museum focusing on electricity, light and sound, the human being, living things, forces and motion, the material world, space and games to discover. The text is clear and concise and features hyperlinks to other topics.

Although the software can be run from the CD-ROM disc, a hard disc is useful to store the position the student is at, enabling him or her to return to the same place without the need to re-run previously completed tasks.

Also included in the pack is a sturdy teachers guide and a free CD-ROM showing brief interactive extracts from all of YITMs other CD-ROMs.

YITM will be on stand no 402.

Other places to visit

Much Ado at Rainbow's Edge from Resource was reviewed late last year. If you haven't seen it yet, don't miss this opportunity to see what is one of the best CD-ROMs for a very long time. Also on show will be *Further Stories from Rainbow's Edge* which is a CD-ROM containing talking books based on the characters in



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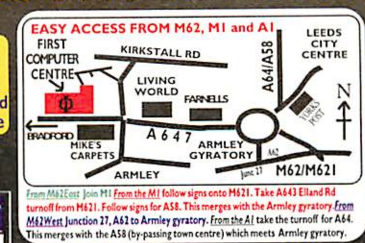
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RiscPC/A7000 16Mb	£89.99
RiscPC/A7000 32Mb	£179.99
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With 1Mb Trade In	£122.99
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Canon BJ240 Colour — New Colour Printer, 720 dpi.	£191.99
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Canon BJC4200Colour — New Version, with Photo Realism Cartridge Option	£254.99
Canon BJC620 Colour — New Enhanced, dedicated colour printer, 720x720 dpi.	£348.99

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CITIZEN COMPUTER PRINTERS

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HP 870CXI — 7 p/p/m Mono, 2 p/p/m Colour	£391.99
HP 5L Laserjet — 4 p/p/m 600dpi, 1Mb of RAM.	£369.99
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Epson Stylus 200 — 720 x 720 dpi, Mono printer, upgradeable to colour	£139.99
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Printer Stands (Universal)	£4.99
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6x Goldstar R560B	£64.99
4x Goldstar R542B	£46.99

Dual IDE cable £9.99

RISCPC's (RISCOS 3.5 only)	
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6x BTC CD drive	£54.99

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CUMANA

Indigo CAA340i Quad Speed CD Drive	£170.95
Indigo CAA340ia Quad Speed CD Drive	£229.99
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Oscar (Parallel) 4 Speed CD Drive	£287.99

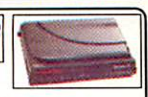
Acorn CD Software

APDL Clipart DTP 1	£18.99
APDL Clipart DTP 2	£18.99
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Tabby-II

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Star LC90 mono ribbon	£4.99
Star LC10/100 mono	£3.69
Star LC10/100 colour	£7.99
Star LC240c colour	£13.99
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Canon BJ30 (3 pack)	£12.99
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Canon BJC 4000 colour (single)	£16.99
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Canon BJC 4000 mono high cap.	£28.99
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Citizen Printiva Std. colours	£6.49
Citizen Printiva Metallic colours	£16.49
HP. Deskjet 500/550 Mono	£22.99
HP. Deskjet 500/550 Colour	£24.99
HP.Deskjet 660 double mono	£23.99
HP.Deskjet 660 colour	£25.99
Epson Stylus mono	£13.99
Epson Stylus colour	£27.99
Epson Stylus Col. II/S/820 Mono	£17.99
Epson Stylus Col. II/S/820 Colour	£24.99
Star SJ144 mono/colour (single)	£8.99

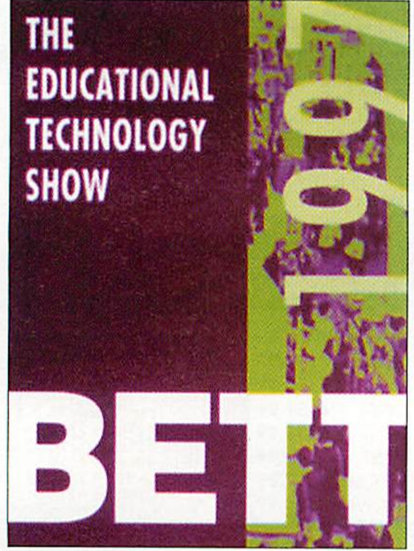
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Fanfold (tractor feed)	500 sheets	£6.99
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	50 x £21.99	500 x £175.99
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Disk labels x500 £6.99
Disk labels x1000 £9.99

A BETTer show



Much Ado. Don't forget, purchasing *Much Ado at Rainbows Edge* will also help support The Rainbow Children's Hospice.

CSH will be showing some products which are so new and secret that I was only allowed to see them very briefly and only on the proviso that I don't write about them. Suffice to say, if you are involved with children between the ages of 5 and 10, whether you are a parent, carer, teacher or guardian, don't miss a visit to stand 313A.

Softease will be showing the latest incarnation of *TextEase*. If you can visit stand 845 be sure to see a *Replay* or *Ace* movie rotated and still running. *TextEase* is an extremely easy-to-use word processor which is available in three versions. The standard version which will support graphics, a similar version which has in-built speech and *Multimedia TextEase*. This is still a word processor but with speech and hyperlinks to other documents and/or other pages, making it a multimedia authoring tool which can still be used for a simple letter.

Education Interactive Imaging will be showing a range of CD-ROMs designed to meet the resourcing needs of teachers of Biology and General Science. Each disc contains about 100 magnified images of objects. These are as diverse as botanical specimens and screws, and have been carefully selected to fit exactly with the National Curriculum requirements. The pictures are an exact replacement of glass specimens traditionally used in Biology teaching but being digital they have a lot more potential – for incorporating into worksheets for example. There are six discs in total and support is offered on the World Wide Web at http://ourworld.compuserve.com/homepages/ed_inter/ideas.htm

Education Interactive Imaging will be on stand C52.

Educationally-sound seminars

As always, there will be several talks and seminars from key personnel about educational matters. Although there are now Acorn specific talks, there are a couple of sessions which should be particularly interesting for teachers in general, and Information Technology co-ordinators in particular.

Niel McLean is from SCAA (Secondary Curriculum and Assessment Authority) and is the Professional Officer for IT. Niel has the enviable ability of being able to translate the incomprehensible into the understandable and therefore is always worth listening to. In anticipation of his popularity, he has been given so may slots that he is likely to need some strong throat lozenges before the week is through.

Of them all, session A2 on Wednesday 8th at 2pm in Seminar Room A should not be missed as the subject is Assessing IT at Key Stage 3. Anyone getting sleepless nights after reading the latest requirements would do well to queue up early to ensure a seat. They should also obtain copies of SCAAs software to help support the end of Key Stage 3 assessment.

The seminar is followed by Electronic Communications in the Classroom in the same room, also by Niel McLean. He is also speaking on Thursday 9th at 3.15pm in Seminar Room D on the subject of Information Technology in the National Curriculum.

The work of John Crick is familiar to many of us and his *Clicker* software has been featured in *Acorn User* on several occasions. John's seminar, A New Way to Support Writing is aimed at SEN teachers (Special Educational Needs) and is lecture C15 on Friday 10th at 12.30pm in Seminar Room C.

This seminar will provide ways to support speech and enable pupils to write and communicate with whole words, phrases, symbols or pictures. This lecture forms part of Fridays programme of seminars for SEN teachers in Seminar Room C.

A short while ago we featured articles about dyslexia and software specifically aimed at dyslexic children. On Wednesday 8th in Seminar Room B, The British Dyslexia Association are giving six seminars about teaching dyslexic children focusing on how technology can be used to help. Most of the seminars are aimed at teachers although on Saturday there are some which are targeted at parents.

Parents Information Network is a national support organisation helping parents to support their children's education with IT. On Saturday 11th at 12.30pm in Seminar Room A, Dr M Holgate from PIN will be talking about the differences in learning with IT at home and at school. It suggests ways parents can become involved with their children's education using a computer and enjoying the experience of learning together. AU

BETT '97

8 to 11 January 1997
National Hall, Olympia, London
No students or under 18s admitted

Opening times:

Wednesday 8 Jan	10am - 6pm
Thursday 9 Jan	10am - 6pm
Friday 10 Jan	10am - 6pm
Saturday 11 Jan	10am - 4.30pm

Ticket hotline

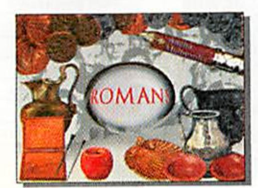
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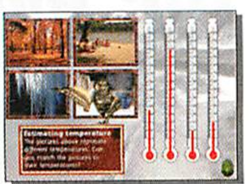
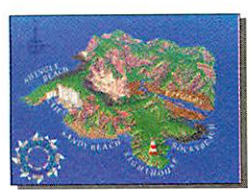
http://www.emap.com/bett/







Win an Anglian collection

Software worth over **£500** is up for grabs

WHICH educational CD-ROMs would you like to own? Anglia Multimedia have put together five collections of programs just for *Acorn User* readers and you could win one for home or school by taking part in this easy-to-enter competition.

Collection One: primary history

Romans –Transports you to a Roman town where you need to talk to the townsfolk, walk into their homes and choose a career and then work to gain your citizenship

Vikings – Travel back to the time of Viking York – Jorvik, and drawing on the artefacts found at the Jorvik Centre, explore the evidence which helps us understand their lives

Castles – Introduces a selection of castles to be found in the British Isles. Exploration reveals the details of castle life and warfare

Collection Two: secondary history

Nelson and his Navy – Explore the Victory and the naval battles with animation, video, audio and paintings, photos and artefacts

Industrial Revolution – What actually happened in the 18th and 19th centuries? How did society change and how did this radical change effect our society and economy?

Collection Three: primary science

Seashore Life – Highly illustrated with video from the Survival TV team to see flora and fauna on the British shoreline

Garden Wildlife – Interactive collection of photographs from UK back gardens. Explore the town and find your facts in the Library, Cinema, Mike's House, the Garden and the Park

Being a Scientist – Helps children understand scientific processes – exploring, investigating and evaluating. An ideal companion to practical work in the classroom and helps with the more difficult concepts

Collection Four: secondary science

Understanding Energy – Allows students to look at the different kinds of energy and to interact with a program which helps basic understanding at the child's own pace

Understanding the Body – Using video, photographs, diagrams and text, you can travel through the different systems of the human body to see how they work and interact

Eureka – An encyclopaedia of discoveries and inventions made by man, and how they have affected culture, food, building, life, energy, industry, medicine, transport and warfare

Collection Five: nature in the raw

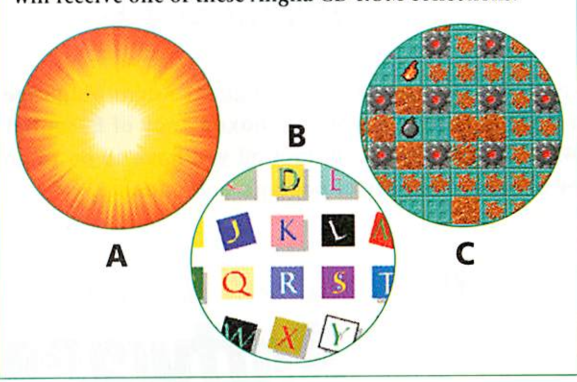
British Isles from the Air – The country as you've never seen it before. As well as allowing you to take advantage of these illustrations for project work you can look at the effect weather and climate have had

The World's Weather – Examines the different types of weather and climate found around the globe and looks at how these affect the lives of both people and the other organisms that share the planet

Survival Mysteries of Nature – Hide with an octopus or swim with a penguin. This is a collection of sound, video and animation showing what animals can do and humans can't

How to win

All you have to do is identify these three pictures from the magazine. Then complete the rest of the entry form and ensure that your entry reaches us before February 1, 1997. The first correct entries to be pulled from the sack will receive one of these Anglia CD-ROM collections.



Entry Form

Name

Address

Postcode

Telephone

	Product	Page no.
A		
B		
C		

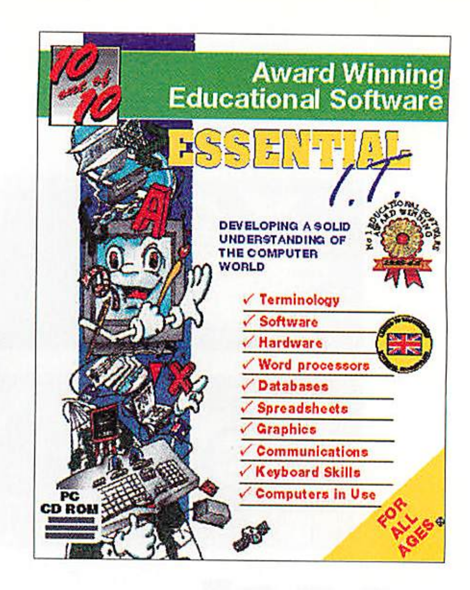
Tick which collection you would like to win:

- ☐ Primary History
- ☐ Secondary History
- ☐ Primary Science
- ☐ Secondary Science
- ☐ Nature in the raw

Now send this to: Anglia Competition, Acorn User, Media House, Adlington Park, Macclesfield SK10 4NP.

☐ Please tick if you do not wish to receive promotional literature

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This voucher entitles me to one free copy of Essential I.T. (rrp £14.99). I understand that in order to receive my copy I have to cover the £1.95 cost of postage and packing.

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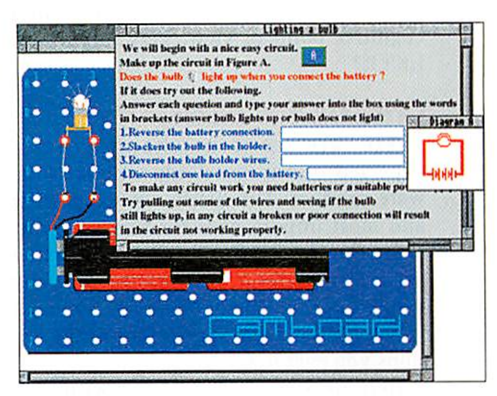


ACORN USER

voucher

Mark Sealey sets out some practical guidelines for choosing educational software

Choose **well;** **use** better



Simulations are always worth investigating but they should not be used to the exclusion of the real thing – where possible

Several thousand educational products are available for the Acorn family of computers. Advertisements and reviews in magazines like *Acorn User* show that new titles are still arriving and old ones being upgraded. If you have a finite budget or are starting from scratch in a new situation, it is important to choose software very carefully in order to support and drive learning experience in your school.

How to begin?

Do you pick titles from only the most reputable of producers? Do you read reviews in magazines like *Acorn User*? Do you look in the subject areas and allot accordingly? Do you consult with colleagues? Or do you examine the way you implement the curriculum across the school or department (because there is just too much material ever to buy even 10 percent of the very best) and allow your choice to be informed by school priorities?

It seems impossible; yet this article will show that by asking the right questions a sufficiently clear picture should emerge for you to be able to make appropriate choices and discover much about your approach to education in the process.

Before you even begin, ask yourself whether the task can be done better without the computer? To assist with estimating weight in maths or teaching Spanish verbs it may be more effective leaving the machine switched off?

If the computer is chosen for the task, non-specialist teachers may feel uncomfortable using it – for equipment is still fallible. If this is the case, ensure the computer is the best teaching medium for the job.

A minimum list

At first it is tempting to think that there are two ways to begin: first, by choosing the titles, series and suites that you cannot be without; second, establishing criteria against which to judge which titles are most likely to lead to effective, engaged and creative learning. Let's work on the list first.

A wordprocessor, a spreadsheet and a database. That's right, isn't it? Or is it? Can you justify this collection? What about a drawing or graphics package? What about your topics this term? A music composition suite? How about a way to access the huge resources on the Internet? And what about utilities – for printing and cataloguing?

Is it really that easy? Is there a definitive list of software must-haves? I think not. Dangers of such a list are stopping at the end and never changing it or concentrating too hard on getting everything on it regardless.

Far better to put energies into deciding term by term (or more frequently if money allows) how to pick up what is needed because circumstances allow. And where better to start than by deciding with colleagues what these circumstances are. What does your school expect from IT and IT in the curriculum? How can an understanding of these expectations and priorities influence and be influenced by what's available?

A practical example: if language development is being concentrated on this year, talking books, stories and interactive, language-rich encyclopaedias are obvious choices. If you are determined to offer as much first hand experience as possible in maths and science, examine your provision for control technology. In other words, curriculum first, titles second.

There is a particularly useful book published by Falmer Press written by David Squires and Anne McDougall called *Choosing and Using Educational Software.* It covers research carried out into learning and teaching styles and matches the requirements of pupils for effective software to these.

Perhaps this book is somewhat specialist for every school library, but at least know of its existence and be able to draw

Choose well; use better



4Mation's Granny's Garden – a superb example of high quality software aimed at a specific audience

on it if you are an Information Technology co-ordinator. It ought to indicate what constitutes good software from a cognitive point of view. Very important, isn't it?

Criteria for decision

There are certain characteristics expected of any good educational software product. The list is not exhaustive and most important is for you and your colleagues to discuss and prioritise according to the circumstances of your own school. This may be one of the most valuable INSET (IN SErvice Training) sessions you ever have!

Here are some themes to start with:

• **Adult involvement:** How far can the pupils work on the suite without supervision? Does this matter? Would you want to work with them and, if not, is its educational rationale sufficiently thought out for users to get just as much from it? Is there consistent on-screen help?

• **Age:** Is there evidence that the product will work with the intended age range? Usually this depends on language, to some extent imagery and probably on complexity. You are in a good position to judge; do you always look at the software from a learning – as well as a teaching – perspective? Some of the Anglia products will appeal to a particularly wide range of ages for example.



A word processor seems to be a minimum requirement and should be able to be tailored to suit individual needs

• **Approval:** Some companies (ESM, 4Mation, Sherston) operate a try-before-you-buy scheme. Alternatively some offer a disabled or 'Lite' version. This allows an opportunity to see whether the software does what is required. Is it useful to you? As these companies have such faith in their product does this make you trust them too?

• **Collaboration:** Will the title sponsor purposeful discussion around the screen and keyboard (and off it)? Is it designed to acknowledge that the moment of learning often occurs when thoughts are shared with others? Or does it fall into that increasingly common trap of trying to bash information in regardless, by drill-and-kill? This can be done alone, can't it? Is it how your school works? Have such issues ever been considered? Many good suites encourage directed work away from the computer. Sherston's are always full of ideas in the teacher materials. Would your classroom be ready to take advantage of this?

• **Cost:** Is the product affordable? Does it represent good value for money? Are upgrades provided free of charge? Does technical support come free? More and more companies provide good, high-quality technical support and this may be essential. If the software freezes the machine or is in some way incompatible with other software (printer drivers or on-line spellcheckers, for example), it will be essential to overcome this; if it has to be paid for by the minute, station or year, it will need to be taken into account.

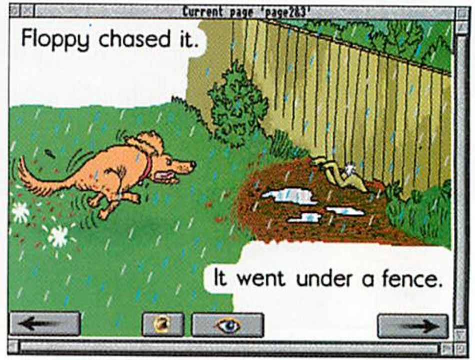
• **Customisation:** Can you alter the way the software works through a series of Options... sound on/off, autosave, 'Ask before printing' etc? Can a copy be personalised against piracy? Is it copy-protected anyway? If so, does this pose difficulties? Should consideration be given to the fact that we all work differently: some children may relish a button bar a mile long; others may be confused. Can the functions of the software be introduced incrementally? If so, is this easy? Some Minerva and Logotron products are excellent in this respect. Indeed, is the software flexible enough to be used in a variety of ways?

• **Description:** Certain products do such valuable jobs but are difficult to describe and market: has this put you off? Clares' *Knowledge Organiser* may be highly appropriate in a certain sixth form context yet hard to understand from a description by an enthusiastic user, for example.

• **Design:** Has the software obviously grown from a hybrid, or worse, from designs such that certain menu options are available only from the icon bar, others from a main menu and others from a toolbox. Worse still, is a subset of each inexplicably duplicated? If so, will you ever manage to remember how to use them?

• **Documentation:** Do you take it for granted that the thicker and more complete the manuals, the better they are? Remember that set of documentation which has been oh-so-thoughtfully written yet has managed to scatter the information required throughout all five chapters? Does the attractively laminated

Choose well; use better



Software to support other activities have become very popular. Sherston produces a range of talking books to support the Oxford Reading Tree and the Cambridge Reading Scheme

card that looks as if it will be so useful contain the 30+ operations most used by the writers but not by you in school? Again, examine how you work: are you a 'if-I-can't-get-it-working-in-15-minutes-I'll-give-up' type? Is a tutorial approach preferable? Is the documentation written so that easily assimilable passages can be legally extracted for colleagues? Is there on-line help?

• **Library:** However good the program may be, if it goes over ground already covered by existing resources, is there any reason for adding it to the software stock? There may be good ones but have you thought them through? The range of graphics and music packages from Clares is superb but individual titles need to be chosen carefully to meet your exact needs.

• **Offence:** Does the software's content (images, language and graphics) fail to reflect what progress has been made in equal opportunities? If not, do you discard something that, say, reinforces gender stereotypes, or do you discuss their treatment in the software? World-aware produces some excellent resources aimed specifically at teaching about the South as opposed to the rich North.

• **Progress:** Does the program allow pupils of different attainment and ability, not to mention different learning styles, to make the most of it? And, as they progress, can the material be re-visited to bring new insights into how it can be used to get more from it a second time? The way that Logotron's *PenDown* (Plus) can have facilities added when needed is a good model. Or is there one rigid path that makes any re-visit filling time, not learning? Can you – in any case – assess pupil use and advances in learning and understanding as a result of the way the program is structured? Does it come, perhaps, with templates or workcards that lead the pupils (and you) through what it is designed to do? These may facilitate record-keeping.

• **Purpose:** Does the software have a clearly stated and a well thought-out purpose, e.g. to enable children working at Key Stages 2 and 3 to better understand aspects of everyday life in ancient Greece? Or is it merely an excuse to display a carousel of glossy images from the parent company's extensive photo library with a few right/wrong answers stuck in so that it can be called an 'educational' or 'edutainment' title?

• **Styles:** Can the program be used in a variety of teaching styles – whole class, individual and pairs/groups? If not, can your style be adapted to the program? Will it – best of all – encourage a re-examination of how you work? Does it require peripherals (camera, printer etc) to which there may not be easy access? Does it work on the network? Will this cost more than is affordable? Does any of this devalue the pupils' access to it?

• **Support:** How reliable and easy is it to get through to the company for help in installing or if things go wrong? Is the number permanently engaged? Has the helpline number been tried out before you buy? Do you have previous experience (and that of colleagues) to help here?

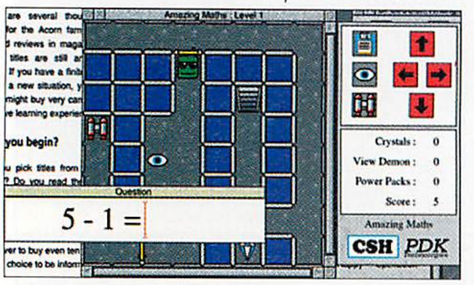
This list is not in any priority but in alphabetical order. There are many more ways to assess software. Try adding to the list, subtracting from it and arranging it according to your own criteria. Such an exercise will teach you more about how software matches your school's needs and hence be of much more value than other people's checklists.

Conclusions

The Acorn range (and now teamed with Xemplar, the combined Reference Platform range) represents undoubtedly the richest quantity and quality of educational software anywhere. We are fortunate – although this huge choice obliges us to examine why and how we use what we do.

Ask these questions with your colleagues and examine your school's approach about appropriate provision of software. Once this process has begun, all sorts of questions about the way you work will be posed and what may have started as the compilation of a simple checklist may turn into something much more profound and of much greater consequence to the success of your school. AU

Some games are purely for amusement. Not necessarily a bad thing, but if you can learn while having fun.....



What type of **program** is this?

Geoff Preston looks at the latest version of *TextEase* which started life as a simple word processor

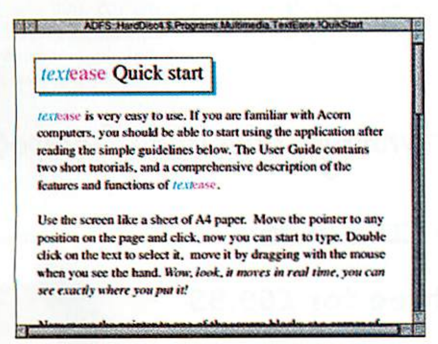
When I first saw *TextEase* I was immediately impressed. Although a relatively low-cost program, it is likely to meet all of your word-processing needs whether at school, home or work. *TextEase* started life as an extremely easy-to-use object oriented word processor which, unlike most others, is not frame-based enabling the user to simply click the mouse somewhere on the page and start typing.

For those who are used to putting text and pictures into frames, *TextEase* may seem a little odd at first. Although simple to use, it is a full feature word processor offering the user such features as justification, underlining and free use of text styles and sizes.

Like many modern word processors, *TextEase* can handle graphics in a variety of formats (including *Draw*files and sprites) making it more of a DTP package rather than a plain word-processor. Although it is cheaper than almost all others, it stands up very well against the familiar heavyweight DTP packages, *Impression* and *Ovation*. In fact, there are some things that *TextEase* can do which the others cannot at present.

Talking TextEase

The next feature to be added to *TextEase* was sound and this was achieved by incorporating Jonathon Duddington's brilliant *Speak* module. Although the sound output is constructed from phonemes, it is nowhere near as robotic as some synthesised speech I've heard.

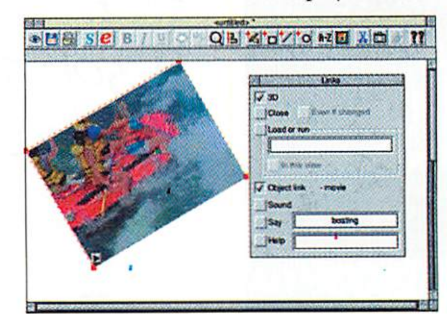


Multimedia TextEase is just as capable of writing a letter as it is for creating a multimedia presentation

The addition of speech will clearly be of benefit to users with certain physical impairments. As well as synthesised speech, *TextEase* can also play some digitally recorded sound samples which have the potential of being much clearer, although the vocabulary will be restricted to those words actually recorded.

Multimedia TextEase

Further developments on *TextEase* continued so that it can now support animations in either *Ace* film format, *Replay* or as sequenced sprites. I saw the latest version of *Multimedia TextEase* at Acorn World and was amazed to see a *Replay* file rendered on the screen at an arbitrary angle of around 30° and still playing. (I understand I was not the first to stand open-mouthed at seeing this.)

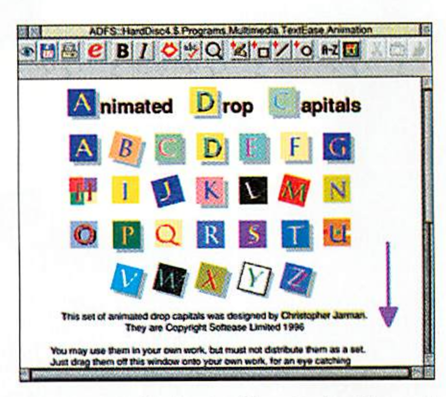


Replay files can be rotated and played. Any object can be a link and the dialogue to program the link is simplicity itself

Hyperlinks to other files have been added so that now *TextEase* really is a true multimedia program. At the time of writing it was not possible to link to other pages in the same document. This is easily overcome by creating your multi-page document as several one page documents and linking those.

By the time you read this, links to other pages and HTML support should be part of the program. Another enhancement planned for launch about now is a browser which will enable anyone to view (but not alter) a *TextEase* document.

TextEase was previously compared with *Impression* and *Pendown* but these enhancements now bring it into the multimedia category and hence new comparisons need to be drawn. Comparisons with *Ultima* and *Magpie* might be regarded as a little unfair as they have both been around for a lot longer and have undergone more development. Even so, *TextEase* stands up very well, although I think it unlikely that it will be used in quite the same way as 'traditional' multimedia programs.



TextEase can display Ace films, Replay films and sequenced sprites

On first using *Multimedia TextEase* it is obvious that it started life as a word processor as it has lost none of its superb text handing features.

To enter text, just click the mouse pointer and start typing. There are no frames to position, no setting up to be done and in this respect it is way in front of most of the opposition.

Where it really does score over the others is because it can still be used as a basic, easy-to-use, click-and-go word processor. The other features are available if you want them, but if you don't, they don't get in the way.

Product details

Price: Standard version of TextEase costs £49, Talking TextEase is £65 and Multimedia TextEase is £85. All prices exclude VAT, and site licences are available for both primary and secondary.
Supplier: Softease
Address: The Old Courthouse, St Peters Church Yard, Derby, DE1 1NN
Tel: (01684) 773173
Fax: (01684) 772922
E-mail: sales@softease.co.uk







GAME SHOW

Steve Mumford looks at the latest games releases



Following on from last month's review of *Inferno*, the first in a range of budget releases by the programming team Paradise, here's a dollop of information from David Flynn. He's keen to point out that they'd be very appreciative of any feedback relating to the demo or the full game.

If games players write in to tell them what they think they've got right, it will enable Paradise to keep those aspects in future titles while attempting to strengthen any weak areas. I think it's an admirable policy and I hope they receive enough feedback to give them something to aim for while they're composing their next product – which just happens to be a game provisionally titled *Overload*.

Back in more standard territory, *Overload* is a sideways scrolling shoot-'em-up, offering more out-and-out arcade action. Although it's still very much in the process of crawling off the drawing board, graphics have been designed for the first world of four, and the game is beginning to take shape. However, due to constraints on time, mostly caused by such things as final year exams, they can only describe the release date as 'some time in 1997'.

Finally, Paradise is in the process of revamping its web pages, and you'll be able to see brand new screenshots and details of its forthcoming games in the near future. In fact, one announcement is that *Inferno* can run on a StrongARM with the help of the *StrongGuard* utility – I hope to bring you more information on that program soon. The Paradise web pages can be found at http://pobox.com/~paradise/ and you can e-mail David at dflynn@plymouth.ac.uk

Absolutely fantastic

Billy Kotsias has contacted me to say that Fantasia has decided not to continue its projects and will be releasing the sourcecode for some other worthy programmers to pick up where they left off.

Luckily, although Fantasia's project came pretty close to stalling, Billy was pulling my leg, and in fact the team are going from strength to strength – you may remember they were doing the bulk of games development on an upgraded A3000 machine. Nowadays, they're using two meaty Risc PCs and consequentially the graphics for the games have improved a lot since you last saw them. *Wizard Apprentice*, a puzzle-based platformer, will now run at a resolution of 640 by 480 pixels in 256 colours on a Risc PC, and at 320 by 256 pixels on all other machines. It's got over a hundred levels, and Billy says it should be finished in a month or two – I hope so.

MetalFighters 4000, the other title in the silicon oven, hasn't been forgotten either and all the graphics of this beat-'em-up will be pre-





rendered in three dimensions – instead of aiming this game at a machine with two megabytes of RAM, Fantasia Software has written it with a high-end computer in mind, and will cut out features for those Acorns with a little less under the bonnet. Finally, if you'd like to know more, e-mail the team at fantasia@hol.gr or write to me and I'll pass your messages on.

I'll take the high end

A while ago, I asked whether you'd prefer games to be written with high-specification machines in mind, so that they could show off the power of the Acorn and push the boat out a little in terms of gameplay, or whether they should be engineered to be playable at the lower end of the range, so that everyone can take advantage of the product. The thought of running, say, *Destiny* on a ridiculously powerful multiprocessor Acorn is something I find hard to resist, but then again I'm aware that very few people would be able to appreciate it.

David Taylor has an A3010 and wants to see games that run on the lower end machines – he says that in his experience of PCs, processor-hungry titles such as *Duke Nukem 3D* and *Quake* have caused a great deal of infuriation. He goes on to say that in the past, the Acorn scene has always supported both ends of the spectrum, and doesn't want to see to see alienated those

GAME SHOW

people who can't afford to upgrade to the latest high-spec machine.

This view is echoed by Simon Jones, who would like to see games released that are within the power of all Acorn computers, except perhaps the lowest models. He stresses that computers such as the A3000 are getting pretty old now, so games such as *Destiny* shouldn't be made unnecessarily inferior just so that they run on all models under the sun.

Of course, the difficulty is knowing where to draw the line, and there are bound to be a few toes trodden on in the process. Although it's vital to cater for a wide range of potential players, I think it's important that there should be one or two games around that have been written with a fast system specifically in mind – this is the only way our programmers will branch out and discover new areas of gameplay to explore. We'll have to wait and see what effect the StrongARM has on the Acorn games scene but it'll certainly be interesting finding out.

Crushed Ice

A quick request from Graham Tarrant relating to one of my favourite platform games, *Fire and Ice*. Graham says he can't break out of level 3 into warmer climes – several people have asked me this question before and I'm stumped, mostly because I've never had a problem.

However, if you can't find an exit and the level seems to be bereft of baddies, it's possible the disc protection is to blame – I've witnessed it activate incorrectly on my A5000 but resetting the machine cured the problem. Just out of interest, has anyone else experienced this?

Back to the Beeb

We're all painfully aware of the lethargic rate at which new games are being released for the Acorn, and if you're becoming a little bored with playing the same old titles until the discs wear thin, it might be time to step back and wallow in a little nostalgia.

David Bradforth of ProAction has written in to let us know about his plans to revitalise the market – he points out that the BBC Micro branch of the Acorn tree has been chopped off and discarded before its time, and now that Risc PCs can emulate the humble BBC almost faultlessly, it's time for the cream of the BBC crop to be re-released.

The ProAction team has already got its hands on games like *E-Type*, *Holed Out*, *Nevyron* and *White Magic* as well as originals such as *TimeSlip* and *Clogger*. And a further morsel of information – David says he's looking into the possibility of releasing *FireTrack* either as an emulation game or a full-blown Acorn product. Only time will tell whether his gambit will be successful.

To try a slice of sugar-sprinkled nostalgia, further information, including a full product list can be obtained, by including a stamped addressed envelope and writing to ProAction, c/o 162 London Road, Romford, Essex, RM7 9EU. I'll let you know as soon as I hear more.

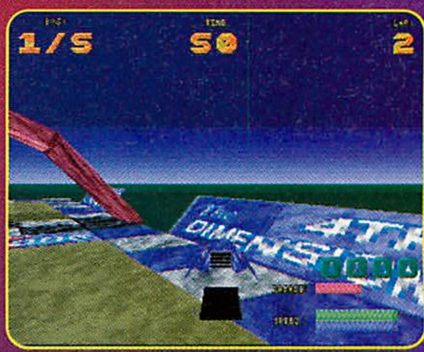
And finally

Andrew Docking has written to me once again to supply a little more information on his 'futuristic three dimensional racing game'. It now has a working title of *Drifter*, and Andrew's been kind enough to send me a set of demonstration discs. When I first saw the screenshots a month or so ago, I knew they reminded me of something – now I've played the game, I can remember what it was. If you've seen *WipeOut* running on a Playstation, you'll have an idea as to what *Drifter's* about. Although the chances are the graphics will be a little more subdued, if Andrew can capture the essence of the popular Playstation title, we'll be on to a surefire winner.

WipeOut, for those not in the know, is – how can I put it – a futuristic three-dimensional racing game where the competitors speed round warped tracks, floating in an anti-gravity field. The lack of friction means that you have to adopt a much looser racing style, and it all adds up to a serious bout of smooth, fast arcade action.

Although still in the development stages, *Drifter* already has a nice control mechanism and with good graphics and varied levels – this game could go far. Watch this space, as they say.





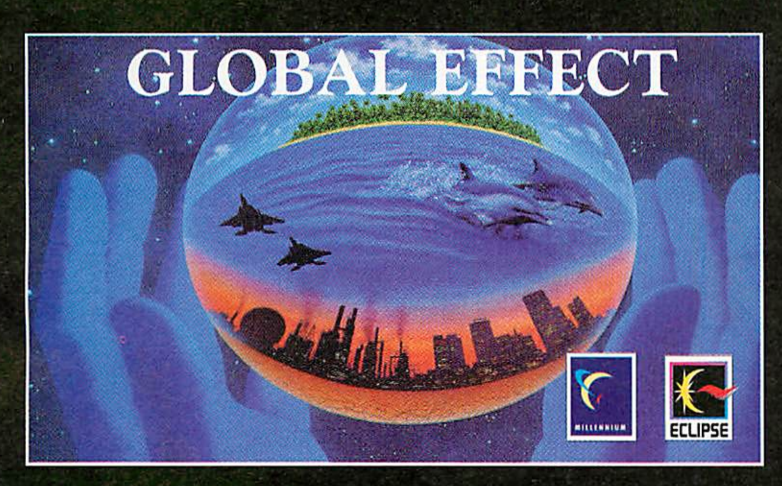
Drifter is an amazingly fast WipeOut clone that really does the business for RISC OS machines







GREAT GAMES FROM ARGO

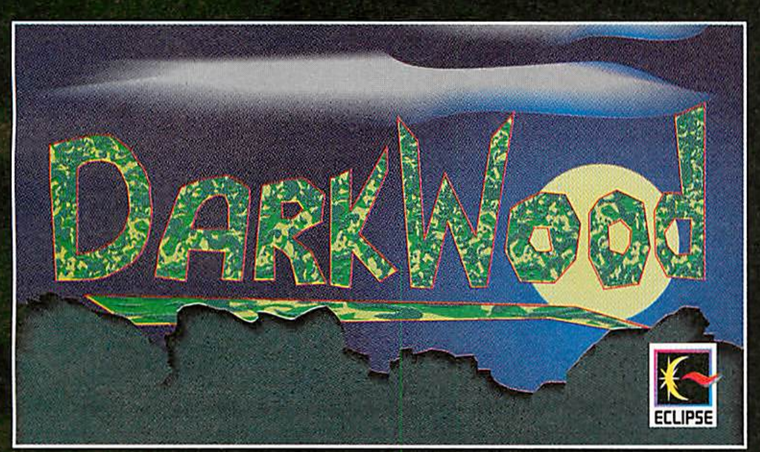






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Another World

Graham Nelson tours the games pages on the Internet

I have a hunch that most Acorn users do not have a StrongARM card, are not on-line to the Internet and are perfectly happy with an A3000 or thereabouts. Happy, at least, until yet another article is printed that somehow assumes anyone without a top-of-the-range Risc PC is nobody at all. This is one of those articles, but at least I feel a twinge of guilt, like a Victorian shopowner at Christmas who can see the street-urchins' faces pressed up to the window.

StrongARM news first. A little late in the day, I can report that my own product, the freeware adventure-game compiler *Inform*, works perfectly on StrongARM without any modification. It runs about five times faster than on a Risc PC 700, tearing through some 3 to 4000 lines of source code per second. The largest program ever written in *Inform*, so far as I know, compiles in a little under six seconds. *!Zip2000*, the RISC OS player for *Inform*-written games, is also fully StrongARM-compatible.

But then, most applications written in C or BASIC are, action games however are another story. Work is going on to hack together patches for Risc PC games, though there's some way to go. There was a similar panic during the changeover from the Archimedes to the Risc PC, when the much-used *Game On!* appeared, a bundle of careful fixes which nobody would enjoy having to work out for themselves. The ARM Club, who wrote *Game On!*, were already showing off *StrongGuard!* at Acorn World, and their WWW home page contains a database of which games work with StrongARM. (Be warned: there are two 'ARM Clubs' on the Web. The other one is a French dating agency.)

Other enthusiasts, like the ARM'd and Dangerous group, are also reacting to StrongARM, in some cases releasing new versions of their games. I hope commercial companies follow suit – anyone who's bought a StrongARM card presumably has money in the bank, so there ought to be a market.

Searching the Web

The Internet is another world. There seem to be three ways to look at it. One view is that it's a monster. BBC2's Newsnight recently broadcast a helpful diagram showing the three essentials: 'Users', connected to 'The Internet', connected to 'Child Pornography'. Thank heavens this is nonsense, though we are going to have to re-think the definition of free speech. The second view is that the Internet is the marvel of the millennium, bringing together people, learning, trade, persuasion, debate: a whole new-found continent, in everything except physical land.

And then there's the third view, that it's an enormous village fete of white elephant stalls, where nothing is quite professionally done. Except that mixed up among the torn paperbacks and rickety saucepans there could be an Old Master going for a song. (No, not a BBC Master, though come to think of it...) It's hard to find out a lot on anything, but easy to find a little on absolutely everything. I stumble over beautiful pages I would never have set out to look for: such as medieval maps of Britain or descriptions of every computer built between the Renaissance and the early 1950s.

This month I've been looking for games pages. A good place to start looking for anything is Digital's astonishing *AltaVista* directory of the entire Web. It reports that 2,239,068 pages contain the word 'games' today. On the other hand, the first of the 223,907 pages listing these pages, ten to a page, includes a description of 'Star Trek: The Next Generation Canonical Drinking Game'. Where a Mr Mark Locum wants us to take a shot of liquor every time anyone mentions 'dilithium crystals'.

So I decided to let *AltaVista* keep the remaining 223,906 pages of suggestions to itself, and turned instead to *Yahoo*, always a little behind the times but a proper library-style catalogue. This is still bewildering, holding 2,251 entries under 'Genres of computer game' alone, but it's well organised and links to 26 alternative indices if you don't care for this one.

General gaming pages

Games pages seem to fall into five categories: reviews, ways to cheat, games to download (commercial demos, shareware and sometimes freeware), programming tips, and of course catalogues of all the others. Most of the Internet's gaming community is using Macintoshes or PCs, but their pages can still be worth a look, if only to see the state of the art.

For **reviews**, the most comprehensive and fearless page I've found is 'Gamer's Zone Software Reviews': wide coverage, plenty of



Table of URLs

The Recreational Software Advisory Council (for worried parents and teachers)
http://www.rsac.org/

The ARM Club's StrongGuard! application
http://www.armclub.org.uk/products/strongguard/index.html

Historic maps at the Bodleian Library, Oxford
http://www.rsl.ox.ac.uk/nnj/mapcase.htm

History of Home Video Games
http://www.sponsor.net/~gchance/

Computer History and Emulation Homepage
http://www.freeflight.com/fms/comp/

AltaVista search engine
http://www.altavista.digital.com/

Yahoo's Computer Games index
http://www.yahoo.com/Recreation/Games/Computer_Games/

Downloads for the Week – Games
http://headlines.yahoo.com/zddownload/games/

Gamer's Zone Software Reviews
http://www.worldvillage.com/wv/gamezone/html/garerev.htm

Nexus Game Programming Page
http://www.gamesdomain.co.uk/gamedev/gprog.html

Video Game Yellow Pages
http://www.gamepen.com/yellowpages/

32-bit Acorn Gaming
http://www.doggysoft.co.uk/gaming/

BBC Micro Gaming
http://homepage.cistron.nl/~wouters/bbc/bbc-etc.html

Warm Silence Software
http://www.wss.co.uk/

Jet Set Willy and Angband are available from Demon's Acorn FTP site
ftp://ftp.demon.co.uk/pub/archimedes/games/

The Rheolism home page
http://www.mantis.co.uk/%7Eolly/rheolism.html

ARM'd And Dangerous
http://box.argonet.co.uk/users/robert.t/games.html

Hensa RISC OS software archive
http://micros.hensa.ac.uk/micros/arch/riscos/arch-riscos.html

Gerben's Acorn Page
http://www.cs.vu.nl/~gerben/acorn/index.html

Cheats Prosper
http://www.doggysoft.co.uk/cheat.html

Elite home page
http://www.york.ac.uk/~sgc102/EliteDir/Elite.html

Destiny (a proposed Doom-like game) home page
http://mphhpc.ph.man.ac.uk/~mbcaprt/DESTINY.html

The IF Archive
ftp://ftp.gmd.de/if-archive/

A browsable index of the IF Archive
http://www.undergrad.math.uwaterloo.ca/~svanegmo/if/if-archive.html

Inform 6: A Compiler for Interactive Fiction
http://www.gnelson.demon.co.uk/inform.html

The Inform Programming Page
http://www.doggysoft.co.uk/inform/

TADS, the Text Adventure Development System
http://www.duke.edu/~srg3/IFprogramming/tads.html

screen shots, and opinions like 'If you value your friends, you may wish to reconsider inviting them to play' (of a multi-player extravaganza).

For **downloads**, try 'Downloads for the Week – Games', a page run by *Yahoo*, pointing almost exclusively to PC and Macintosh software.

For **programming**, with algorithms from sprite rendering to virtual reality creation and heaps of wisdom, I've been very impressed by the 'Nexus Game Programming Page'.

Finally, for another **catalogue** try the 'Video Game Yellow Pages'.

Acorn gaming pages

Much the best general place to start is Gareth Moore's '32 Bit Acorn Gaming Page', especially strong on news, reviews and screen shots of proposed games whose writers are trying to canvas support. There are also links to the world of 'retrogaming', that is, playing old games using emulators for long-gone computers.

RISC OS emulators have been written for the ZX Spectrum, BBC Micro, Amstrad CPC and the Game Boy and Sega video games at least. Many of these are free, though the best Spectrum and BBC Micro emulators seem to be those sold by Warm Silence Software.

My favourite free game to **download** is also a retrogame: the lavish RISC OS port of the Spectrum classic *Jet Set Willy*. Other treats include *Rheolism*, a full implementation of *Tetris* in one line of BBC Basic by David Moore and Martin Hollis. (I remember once asking David what the keys were: '4, 5 and 6,' he said, 'or almost anything else, actually.') There are also *Angband*, a RISC OS version of the latest character-graphics dungeon game, and some worthwhile 'ARM'd And Dangerous' games.

The best Acorn software archive on-line, *Hensa*, has little in the way of games, but it would be criminal not to mention it. A new StrongARM-aware *!Zap* v1.35, at a161 in *Hensa*, will be welcome to any *Inform* users. For a general catalogue of Acorn sites, see 'Gerben's Acorn page'.

For cheats, take a look at 'Cheats Prosper'. Finally, a few individual games have their own pages, among which *Elite* stands out and *Destiny* will be nice when it's finished.

Interactive fiction

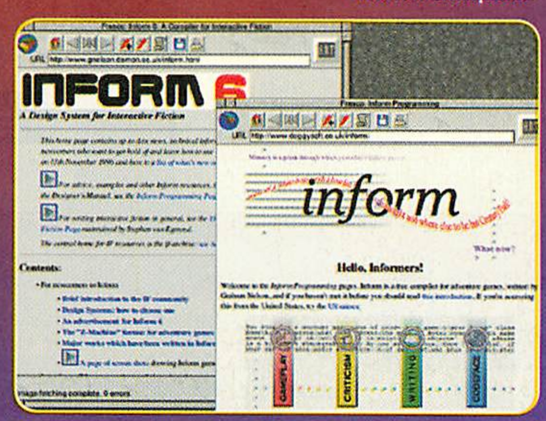
My own favourite genre, interactive fiction (or adventure gaming), is especially well served by the Internet. The centre is without doubt the 'IF Archive', which contains gigabytes of excellent and mostly free material. I'll also recommend my own *Inform 6* page, Andrew Clover's 'Inform Programming Page' and the home of my arch-rival, the 'TADS Text Adventure Development System'. TADS games have recently become playable on RISC OS, and by the time you read this the compiler may also be available.

Just time left to mention some newsgroups. 'rec.arts.int-fiction' is the discussion forum for IF authors, and 'rec.games.int-fiction' for players and traders of clues and solutions. Finally, 'comp.sys.acorn.games' is a place for Acorn gamers of all kinds.

Acknowledgement

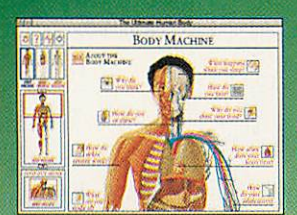
I've been using ANT's Internet Suite II software, a US Robotics Sportster Modem and a Demon account to access the Internet. Of course, all these have perfectly good alternatives. But I'd like to take this opportunity to thank ANT's prompt and helpful support staff who provide the best after-sales service I've seen in the Acorn marketplace.





A selection of games pages on the Internet

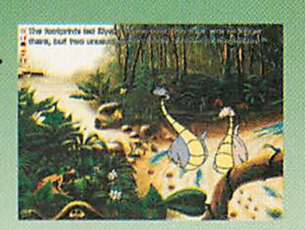
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A dark in the lightness

Author: Jonathan Rawle

Every so often, somebody sends us a letter suggesting that we take all the graphical doodles we've featured in *info, collect them together and make a screen saver out of them. Up until now though, nobody has ever just *done* this and sent us the result. Three cheers then to Jonathan Rawle, for saving us the effort of having to write the prog ourselves.

To be entirely honest, Jonathan has not done all the work necessary for the ultimate *info blanker, but he has supplied the framework needed to allow extra blanking effects to be added simply by slotting in a few lines of Basic. He has supplied a few of his own devisings but it would not be beyond the wit of man to insert a few classic Vibisms.

Double clicking on the *!Saviour* icon installs the screen saver. You can quit it from the Task display window. If you wish to install *Saviour* permanently you might like to copy it into your boot sequence. Boot.Choices.Tasks would be an appropriate location.

To configure *Saviour*, double click on the *!Saviour* icon with Alt held down. A window opens giving the following options: *Delay* The time delay before the screen saver activates. *Completely black*: The time delay before the screen goes completely black, this must be longer than the 'Delay' option! *Use ScreenBlanker module outside desktop*: *Saviour* only operates when you are working in the desktop. If this option is selected, the screen will still blank after the delay time if you are outside the desktop (but no display will be loaded).

Click on OK to save the options. These options will now be used every time *Saviour* is loaded. Clicking on OK also updates *Saviour* if it is loaded, or loads it if it is not already loaded.

To save memory, *Saviour* loads the displays from disc when it needs them. For this reason, it's best to run it from the hard disc. If you do not have a hard disc, you could copy *Saviour* into RamDisc or register it in the resource filing system.

The displays are stored in the directory !Saviour.Savers. When the computer is left alone for the time delay (set in the configure window), one of these displays is chosen at random.

To prevent a display from being chosen, rename it into another directory. To test a display, it can be run by simply double-clicking it. Displays can easily be created in BASIC.

Ideally they should be moving graphical displays with no part of the screen showing the same thing for too long (this is what causes screen burn). The background should be black.

The following line should appear at the start of a display program:

```
LIBRARY
"<Saviour$Dir>.Library":PROC-
saviour_init
```

This line should be included at the end of the main program loop:

```
PROCsaviour_check
```

For clarification, you may wish to examine some of the displays supplied.

Although written in BASIC, displays can contain assembler and can be stored in application directories. Using application directories is an advantage when you need to include resources such as sprites for your display, and to reserve the right amount of memory with the Wimpslot command.

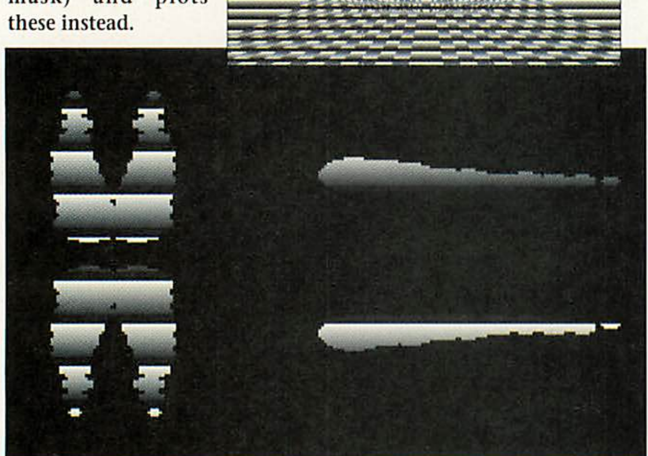


The stainless steel mat

Author: Mark Adcock

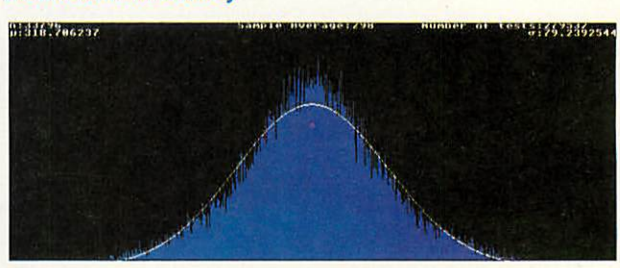
Here are a couple of trusty grey-scaled colour cycling metallic like creations. The first, *Metallic,* comes in two forms prudently numbered 1 and 2. The second, Mark says, looks better during the animation phase, the first looks better when static. And no, we don't know why the second prog also has an extra 'T'.

Mark's other program, *The Mask* uses similar techniques to produce the colour effects, but rather than plot the whole image, cuts out eight 'worms' from it (using OS_SpriteOp to operate on the sprite's mask) and plots these instead.



Normal wisdom

Author: Jonathan Amery



Anyone scared of statistics should now hide Dr Who-like behind the sofa until the mathematical equivalent of the cybermen have gone away. For this prog is a demonstration of the Central Limit Theorem. Now don't say you never learn anything in *info.

When you run it, it will ask for the sample size – the bigger this is the better the fit to a Normal distribution. If the size is too big the program will just be slow. The suggested size of 16 is good. For each individual test a random number is generated between 0 and 639. These are averaged over the sample. The graph (in blue) is of the means of the samples. It should approximate a Normal.

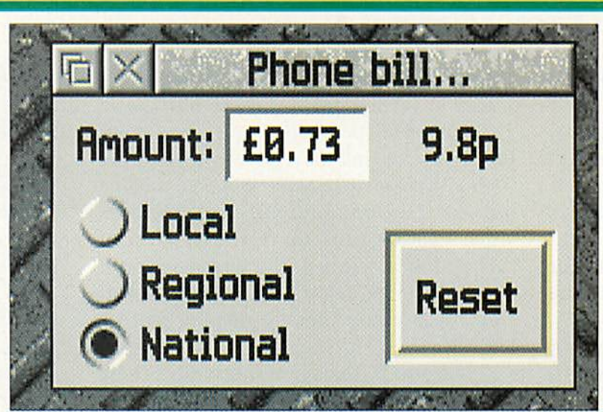
As the graph reaches the top of the screen it is redrawn at a smaller scale. If Space is pressed the program will superimpose a Normal (in yellow) on the graph so you can check the fit. The program then quits. If Return is pressed instead, the current data is saved to a file (!Data) inside the application. To reload this data run the application with Return held down.

It's good – for BT – to talk

Author: Scott Bonham

Here's a small desktop app that keeps track of exactly how much money British Telecom is going to extract from your hard-earned wad at the end of the quarter.

The innards of the program are a simple stopwatch that starts counting when the program is started up. By selecting the appropriate type of call – either Local, Regional or National, it can then do a quick bit of multiplication to come up with the damage.



Call charges change according to the time of day and day of the week and these are also taken into account.

In its current incarnation, the following charges (shown in pence per minute) are used:

	Day	Eve	W/E
Local	4.0	1.7	1.0
Regional	8.3	4.0	3.3
National	9.8	5.8	3.3

Obviously this program could equally well be used to keep track of your on-line charges and hence exactly how much 'cheryl/jpg' cost to download.

To prove just how useful this prog is, if I'd been typing this text on-line it would have cost me all of 6p but then it is Sunday evening...

Bar, bar, black sheep

Author: Clem Edmond

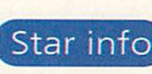
Just to prove that we do get music sent to us by people apart from Barnaby Rowe and Mr Adamson, here's an amusing (and in his words 'jumpy') little offering from Clem Edmond.

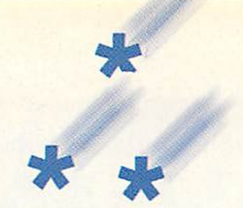
Sheeps and Ducks follows on the timeless tradition of that most excellent of all soundtrackers *WonderChicken*. We'll be hearing more from Clem next month, but in the meantime crank out Digital Symphony and have a listen to *Sheeps*.

We would like to point out that space on the cover disc is at a premium (and we're often more extravagant than we should be) so soundtrackers modules can be a bit of a luxury.

We therefore impose a rather arbitrary upper limit of 100K on files. Please don't take this as an invitation to write 98K tunes – the smaller the better! Our top tune from recent months was Graeme Jefferis' positively waif-like *60sSciFI* weighing in at a mere 32K.

We're always interested in receiving Rhapsody and MIDI files.





Zap HTML keys

Author: Nigel Parker

Nigel Parker was not enamoured with the standard keys used in Zap's HTML mode and has come with a new set for entering all those weird and wonderful HTML codes. He says that his alternatives are ideal for beginners since most of the keystrokes make sense (eg Ctrl-E for emphasis and Ctrl-Shift-E for strong emphasis).

'I've tried to keep as much of the default key map as possible so that it isn't necessary to switch between maps, and I've altered one of the default keys (Ctrl-Shift-H) to perform the command 'BASEMAP 5' which selects the HTML keymap for use. I have also disabled all of the Ctrl-Shift keystrokes in the HTML map which aren't used for HTML (to avoid confusion and incorrect keystrokes being entered).

The latest version of ZapHTML (available on the RO3.7 CD) has new commands and Nigel has supplied updated versions of his keymap for both version 0.02beta and 0.03beta. His original file can be found in the directory 'original'

There is also a drawfile on the disc ready to print out which contains a list of all the key assignments.

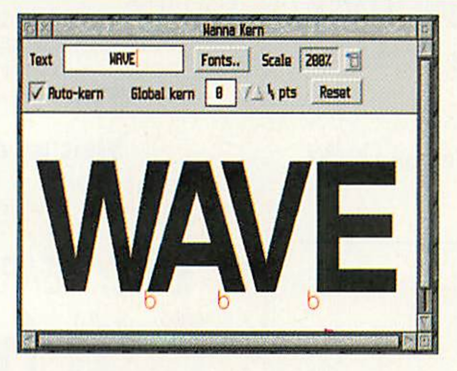
^A	Address
^B	Bold
^C	Program code
^D	Definition list item
SHIFT ^D	Definition list
^E	Emphasis
SHIFT ^E	Strong emphasis
^F	Definition
^H	Headings (1-6)
^I	Image
^K	Keyboard
^L	Hypertext link
SHIFT ^L	List item
^M	Line break
^N	Numbered list
^O	Oblique (italic)
^P	Preformatted
^Q	Quote (Citation)
SHIFT ^Q	Block quote
^R	Rule off
SHIFT ^R	Remark
^S	Sample
^T	Teletype
SHIFT ^T	HTML template
^U	Unordered list
^V	Variable
SHIFT ^RETURN	Paragraph

Cunning kerning

Author: Barry Wickett

Long standing *info contributor Barry Wickett has come up with another invaluable utility. Barry says, 'The need for this application is quite obvious from the title. The writing of it arose from the need to kern text quickly and easily for use in *!Draw* and the like.

'It is possible to do what this application does in *!Draw* by typing in each character and then dragging them around. This can be a little tricky though and time consuming. With this application the needed text can be kerned in seconds. Sometimes you want to tightly kern a title to give it a striking effect or stretch out the spacing to give it a cooler and classic look.



'At other times, when using a PD font in a large size, it is often necessary to change the kerning as it never seems to look quite right.'

We particularly like the attention to detail Barry has put into this program – the way the window automatically resizes when the text resizes and the natty little red 'handles' on each letter. All we'd like now is a 'plug-in' to perform vertical kerning.

Rain, snow and thingummybobs

Author: Nigel Stoner

Not a weather forecast delivered by a hopeless amnesiac you understand but a clue to four graphical oddities by Nigel Stoner of Barnsley.

As you might expect, *Rain* and *Snow* were fashioned along similar lines. Indeed, have a look at *Rain* and you'll find a variable called flakes% which might indicate which weather simulation Nigel created first.

Rain is a nice downpour emulator with several layers of precipitation in various colours, moving at different speeds to give a good feeling of parallax.

As you might expect, the donkey work has to be done by some machine code, which simply processes the list of 'flakes', unplotting them, moving them and replotting them. Each flake is made up of two pixels, written directly into the mode 13 screen for speed.

Snow is a similar affair with a random element chucked in for that authentic blizzard effect. Some random numbers are pre-stored in a table for speed.

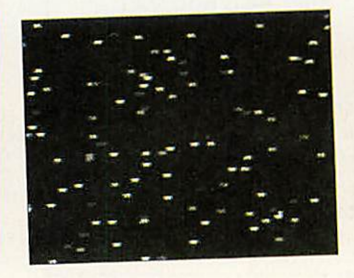
Henon is "a very pretty display of random Henon maps." (That's Henon, not Hendon – if we were to unleash a random map of Hendon on an unsuspecting London, the North Circular Road would be clogged up for weeks...) Nigel obtained the Henon formula from the *Chaos Cook Book*.

"The variables *a* and *b* decide what shape Henon map will be drawn, PROCChoose decides if it is a fast plot or a slow (15 iterations) plot, the scale and the direction of the plot (ang%). Look out for the galaxies, owl eyes, fire birds, shells, shrimps, fountains, fireworks, duds and many other shapes. It's interesting to note how fine the line is before order is transformed into chaos." This program is particularly striking on a StrongARM, although you are likely to miss some of the subtleties of plotting.

Nigel's final offering this month is *Thingy* – well, come on – we all have to write a program called *Thingy* at some time in our careers. It's one of those assembler sin and cos riddled lissajous-type affairs and reminds the author of "one of those Christmas ornaments you hang on the ceiling". It's a pity we didn't include it in the last issue or you could have all saved pounds on expensive Christmas decorations, by suspending your monitors on sturdy chains and running *Thingy*. There's always next year.



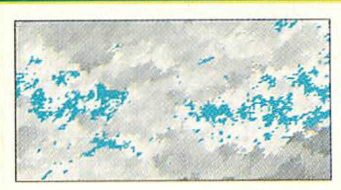






Clouded vision

Author: Daniel Mossop


Weather seems to be the theme of the month and there is quite an uncanny parallel between this trio of demos by Daniel Mossop of Dumfries and those by Nigel Stoner.

Clouds uses a "combination of random and determined colour plots to produce a cloud-like scene." It is a relatively short piece of BASIC and thus all the more impressive.

ATractor draws a 'strange attractor'. The result is what appears to be a fractal hand-sketched with a fine pencil and you might never guess you were looking at humble old mode 12. This will take a short while to get going.

Finally, *GOOoooooo* is an effective demonstration of what a little BASIC, mode 12 and some colour cycling can achieve. Particularly goo-like is the way the globules pause sometimes then run quickly down again. Jan Vibe once did a 'rain on the window' simulation and this program might well be the equivalent for some particularly unpleasant alien world.

So-fa, so good

Author: Mr Adamson

Mr Adamson, music teacher and MIDI-meister extraordinaire, has evidently been burning the midnight oil down in the music room. The result is a trio of original compositions in Rhapsody 3 and MIDI format.

Mr A makes no apologies for the titles – the three elements of his three-piece suite taking their names from well-known couch designs.

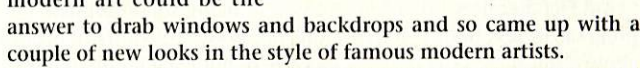
The pieces have a sort of baroque flavour. *QueenAnn* has to be our personal favourite, but then we always were suckers for a well turned leg.

That's all from Sir for a month or two at least. We hope he will crank out his music quill again before too long but in the meantime, we have excellent musical offerings of a different kind from Clem Edmonds and Barnaby Rowe over the next couple of issues.

Watch, or rather listen to this space...

Home is where the art is

Author: David Llewellyn-Jones



Here's the first of two stunning desktop redesigns. David decided a little modern art could be the answer to drab windows and backdrops and so came up with a couple of new looks in the style of famous modern artists.

This month *!Mondrean* emboldens your windows with primal quadrilaterals. The application simply installs new sprites to replace the default ones and also loads a new backdrop. The small *!RunImage* program merely issues a SYS "Wimp_CommandWindow",-1 to avoid the "press SPACE to continue" message. Next month see what Jackson Pollock might have got up to had he got his hands on an Acorn machine!

Top of the formulae

Author: Chris Allen

Ignotum is the strange and wonderful title of this mathematical application. We leave it to the author to explain the name...

"Ignotum Perignotius – an explanation obscurer than the thing it is meant to explain. This is how I felt text books described scientific equations, in an obscure, dated and confusing manner.

"I wrote *Ignotum* to provide me with a quick and easy way to find the equation that I happen to be looking for. I also made sure that it gives you information on the equations, at least to tell you what the letters stand for and often more detailed explanations. The formulae are suitable for GCSE and A level."

Install *Ignotum* in the usual way. It will use 3D sprites if you have them configured and also provides interactive help on windows and menus. Click on the *Ignotum* icon to open the formula window.

The 'topic' can be selected from the 21 provided using the pop-up menu. Chris has kept *Ignotum* small because it is obviously a program that could well be used alongside other, larger applications. For this reason the formulae are loaded from disc when needed (i.e. when a particular topic is chosen).

Underneath, a list of formulae available for the topic specified is shown. Click on a formula with Adjust or Select. If information is available (and selected – use the button top-right) it will be shown at the bottom. You can export the formula easily by dragging it to a filer window or to another application like *Impression* or *Edit*.

Because of the limitations of standard fonts, certain symbols have been used to replace the correct mathematical ones:

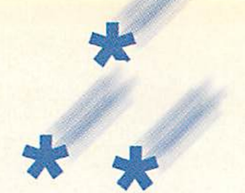
^	to the power of
^½	square root
>	differentiates to
{	integral sign

Other symbols are standard, so for example modulus of x is shown as |x|.

If you use a particular set of formulae all the time, use the Save Choices option on the menu to ensure they are loaded by default. You can also add your own formulae quite easily.

"The formulae lists are in the *Formulae* subdirectory. The filenames are the first four letters of the topic which appears in the topic menu, e.g. the 'Motion' topic is called 'Moti'. To add to any topic, load it into *Edit* and read the notes at the beginning of the file to guide you.

"Should you want to add your own topic, then the menu structure is flexible enough to handle it. You should add the title of the topic to the relevant file in the *Topics* subdirectory. Again, the notes at the beginning of each file will guide you. Finally create your formula list and place it in the *Formulae* subdirectory."



Hither and dither Author: Jan Vibe

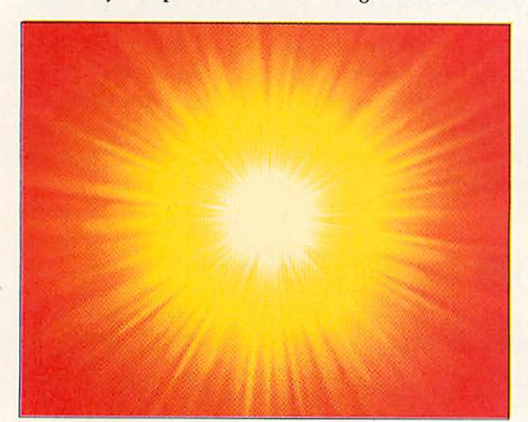
Jan Vibe OBE (Our Basic Expert) returns with a trio of the finest BASIC graphical ditties.

ColPat produces a nice dithered progression in a circular form. Not bad we thought, until we looked at the program and realised it was running in just a *16 colour* mode! The dithering procedure takes only one parameter in the range 0 to 255 and selects a pattern between the logical colours 1 to 15. These are set to a carefully chosen palette.

Tunnel was actually designed to show a 'pulsating star' but Jan thinks it turned out looking like a 'trip into a multicoloured tunnel of light'.

Who are we to disagree? We've altered the program slightly to run on RiscPCs but if, like Jan, you have a *ColourCard Gold,* change the PROCmode back to MODE 103.

Considerate as ever, Jan recoded *Tunnel* to run in mode 20 with 16 colours and the effect is just as impressive. You'll find this version as *Tunnel16* on the disc.





It turned out looking like a trip into a multi-coloured tunnel of light

Small-minded Author: Justin Fletcher

Justin Fletcher may indeed be accused of being small-minded, but only in the nicest possible sense. He resurrects the challenge of writing a program in less than 256 bytes and the mysterious title of *Sig*, a throwback to a previous mini machine-code doodle, gives nothing away about what it actually does. In fact, we're not even going to tell you – you'll have to work it out for yourself.

If you think you're up to writing an amazing sub-256 byte masterpiece then we would like to see it. Coming up soon are some splendid BASIC demos which are exactly 1K long, so if assembler is not really your bag, try your hand at coding the best K of BASIC you ever did. (And then send it in to us of course.)

Over to you McDuff

Author: Barnaby Rowe

We've carried a number of compositions by Barnaby Rowe over the recent months. His latest toon was written as part of his GCSE course work and is call *LeadOn*. Whether this is an order to beat forth a path or merely a description of a metallic nature is not made clear but either way *LeadOn* is a jolly little piece which would not seem at all out of place in the background of 'The Clothes Show'.

The tune is supplied in (compressed) *Rhapsody 3* format and also as a MIDI file. The instruments are set to General MIDI standard so most users won't have to alter the voice selections. If your keyboard is not General MIDI compatible you may have to edit the MID Program Number, or Voice.

*QUIT

All programs, hints and tips, music and madness to:
*INFO, *Acorn User*, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP
or, if your submission is **100K or less**, e-mail us (including your real address please) at:
austarinfo@idg.co.uk

You needn't include a letter but **please put your name, address and program title on every disc** and include a text file containing your name, address, disc contents and program details. Saved screens, drawfiles, examples and background information are a delight to receive and an SAE will ensure your discs are returned. *info submissions only please.

Arc TAN gent Author: Jan Vibe

As well as his usual box of visual tricks, Jan Vibe offers this simple and eminently useful demonstration of how to work out angles.

The function ATN doesn't quite tell you all you need to know when you want to work out what angle one object is from another. *Angle* shows how it is done by displaying the angle of the position of the pointer from the centre of the screen. (And if you are very careful, you can get a 'division by zero' error – have a go!)

Compatibility table

Program	RISC OS 2	RISC OS 3.1	RISC OS 3.5+
Heron	Yes	Yes	Yes
Rain	No	Yes	Yes
Snow	Yes	Yes	Yes
Thingy	No	Yes	Yes
Metallic	Yes	Yes	Yes
Metallic^2	Yes	Yes	Yes
The Mask	Yes	Yes	Yes
!Ignotum	No	Yes	Yes
!CtrlLimit	Yes	Yes	Yes
!PhoneBill	No	Yes	Yes
Sig	Yes	Yes	Yes
!Mondrean	No	Yes	Yes
A Tractor	Yes	Yes	Yes
Clouds	Yes	Yes	Yes
GOOoooo	Yes	Yes	Yes
Tractor31	No	Yes	Yes
Tractor RPC	No	No	Yes
!Saviour	No	Yes	Yes
Angle	Yes	Yes	Yes
Colpat	No	Yes	No
Tunnel	No	Yes	Yes
Tunnel 16	No	Yes	Yes
!WannaKern	No	Yes	Yes

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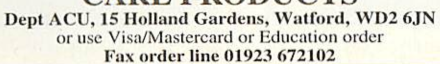
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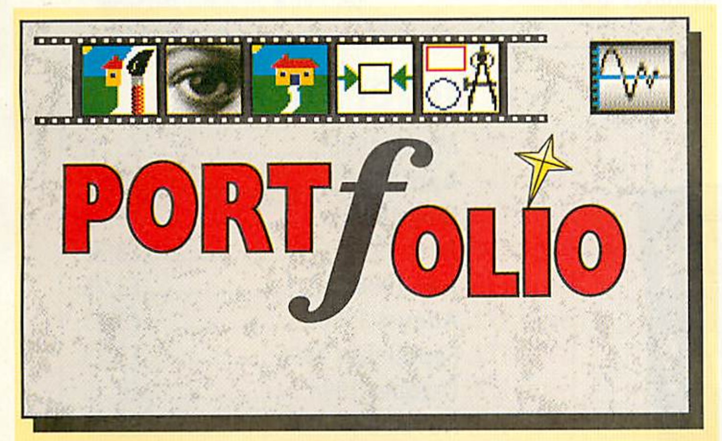
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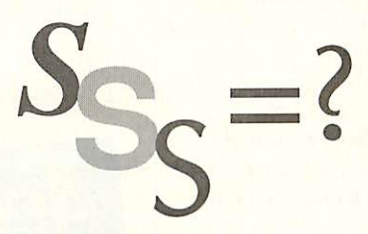
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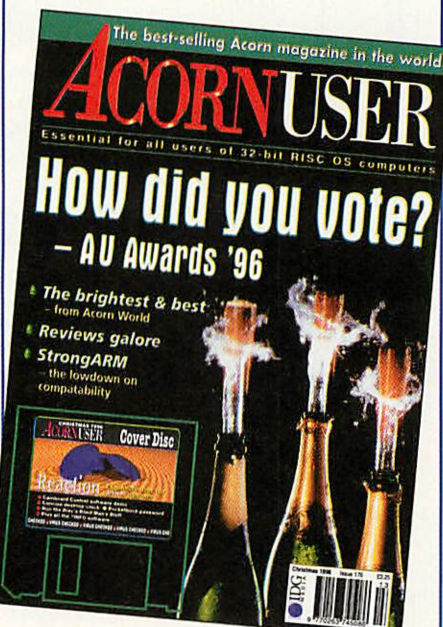
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Lights and action

Mike Cook sees the light

We all have interests that fall by the wayside as we get older. One of my early interests was theatre lighting – I even did the lighting in a professional theatre once, the newly built Gulblenkin Theatre in Newcastle. I was therefore intrigued when Philip Bearman contacted me wanting to know how to control DMX standard lights.

I admit I had never heard of the standard. In my day most lights were controlled by very large wire wound variable resistors, a technology that hadn't changed much since the war.

When I left the lighting scene electronic dimmers were coming in that used triac switching devices. These basically chopped up the mains waveform and fed the lights with a variable mark/space ratio voltage at 100Hz. The problem was that they caused interference both to other lights and sound equipment. This meant there had to be lots of filtering and screening of lighting wires. Nowadays the dimming electronics are in the lights themselves. So there is little potential for radiated interference. The control signals can be a low DC voltage or now with DMX control, derived from a computer. Thanks to Philip, I got a copy of a *DMX Good Practice Guide* from which I was able to deduce what the standard was all about.

The DMX512 standard, to give it its full name, is an asynchronous serial data signal. It is similar to the data produced by the computer's serial port using eight bits of data, two stop bits and no parity. However, two vital differences mean the built-in serial port cannot be used.

Firstly, the signals are in RS485 or RS422 format – that is, a five volt push pull standard. This means there are two serial signals, one the inverse of the other. Secondly, the data rate is at 250K baud, a speed that can't be generated by the hardware in the computer. Fortunately this speed is very easy to generate. The serial data is sent from the computer, in a daisy chain, to all the lights. The total length of the line may be up to 1km but in practice, it's best to keep the line down to about 500m and after that use signal repeaters.

Each light is given an identity number by a row of small switches and it simply counts the serial bytes until it reaches the one that matches its identity number. It latches the value of that byte and uses it to control the brightness of the light. Hence there are 256 levels of brightness.

More sophisticated lights can have other parameters controlled in the same way. For example, some lights come equipped with a mirror controlled by two motors to enable the pointing position to be changed. Others have built-in pattern projectors and coloured filter wheels. All these are controlled by bytes assigned to different channels.

As a slight complication there are two different schemes for numbering the lights. This is to avoid having a channel zero, something with which many people have a conceptual difficulty. So when you set up a light's address it can either be that channel or the one next to it, it's a matter of trial and error.

In order for the light to know when to start counting the bytes, some form of start code must be sent. A number can't be used as all the available numbers are needed to control the dimmer. Therefore the DMX standard specifies a packet protocol – this is shown in Figure I.

To mark the start of the package, a break state is sent for the time of two bytes. A break is simply the line being held in the space state for the time it takes to transmit two bytes. This can be detected at the receiving end as not being a valid serial word and used to reset the lights counter. Incidentally. the old term of a break state was 'the line being spaced out' – something that has a completely different meaning nowadays.

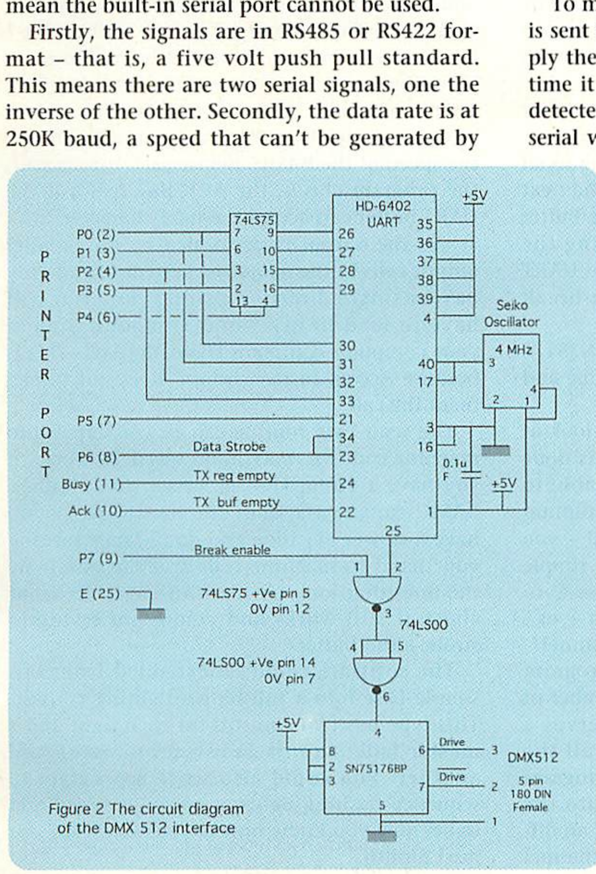


Figure 2 The circuit diagram of the DMX 512 interface

After the break a start code is transmitted. The standard only recognises one start code – that of zero or a null. Following that the bytes for the lights are transmitted – there can be up to 512 of these but in practice there are normally fewer. The more bytes or channels, the longer it takes to send a new state to the lights and the slower the response time can be. Unless you're lighting a Pink Floyd concert you don't get anywhere near the maximum. If you do happen to be lighting a Pink Floyd concert you'll probably use multiple data streams.

The standard says to use 180 degree DIN connectors with female connectors being the source and male the inputs. Connections should be by means of twisted pair cable with a screen. Finally the last lamp must be terminated by placing 90 to 120 ohm resistors across the data lines, which is normally done

Lights and action

with a small terminating plug on the last lamp. The exact value of the resistor should match the impedance of the cable used. If the line is not correctly terminated, signal reflections can occur that could scramble the next byte.

Having established what is needed, let's look at how it can be achieved. Generating serial data is the province of a UART, so I immediately thought of connecting one to the printer port. However, with the requirement of eight data inputs a straightforward connection would leave single direction port owners out in the cold because of their lack of auxiliary outputs. I therefore decided to design some sort of latch. Initially I used two 4-bit latches. I even built them into the prototype, but while writing the software I discovered I could get away with only using one.

The final circuit is shown in Figure II – it uses a 74LS74 to latch the lower nibble of the data word. The upper nibble is addressed directly at the same time as bit 6 strobes in the data. The break condition can be produced by some UARTs but these are specifically designed to be connected to a computer bus.

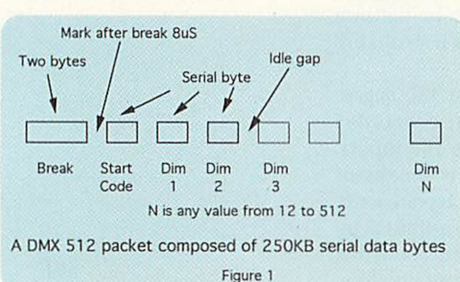
In this case I had to pass the serial data through a logic gate and use printer bit 7 to let data pass or impose the break condition. The UART needs a times 16 clock. As the data rate is 250K baud this works out at 4MHz. Fortunately this is a standard speed for quartz oscillators. I used an oscillator module – the type is not important, only the frequency.

The UART also needs a reset pulse after power on. I could have used a hardware arrangement of capacitors and flip flops but these can be unreliable and I had a spare printer port output available. I used the two printer port inputs to read the UART's TX status lines.

The ACK line indicates if the UART's buffer can receive a character. The UART has two transmit locations, the register where the serial output occurs and the buffer which is the next character in waiting. Normally only the buffer flag needs to be seen, but when forcing the break condition it is vital we know the UART has stopped transmitting before the break enable is lifted.

The RS485 signal is generated by a SN75176 line driver. Many such drivers are available and this is just one I happened to have.

That's the hardware sorted, now let's look at the software. All the important timing is done by the hardware so it is quite reasonable to drive it using BASIC. I have written a minimum BASIC program to show what is needed – you can find this on the cover disc. It has a simple keyboard interface, press C to select a channel and then + or - to brighten or dim that channel.



A DMX 512 packet composed of 250KB serial data bytes

Figure 1

The first line of the program sets up the maximum number of channels and then reserves a piece of memory to put all the channel data into. The program simply pokes the data into the correct place by specifying an offset which is equal to the channel

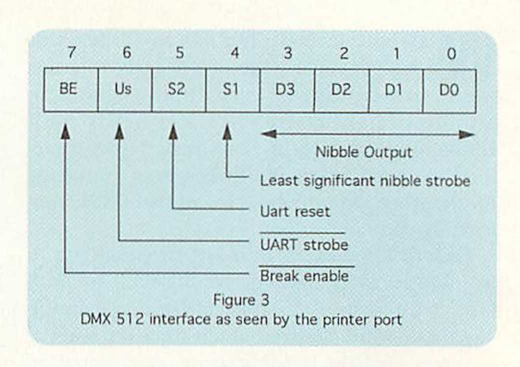


Figure 3
DMX 512 interface as seen by the printer port

number. The send procedure ships the whole block off to the UART. Note here that location 0 contains the zero start code – if you want any other type of code simply poke into the memory with a zero offset.

The heart of the interface is the send procedure – it has to manipulate the bits at the printer port. Figure III shows the programmer's view of these bits. The lower four bits are for data and the upper four are for control. Bit 5 is the UART reset, which needs pulsing high at the start and then needs to be kept low. Bit 6 is the UART strobe, which needs to be kept high until the data latch has been set up.

This is done by placing the lower four bits of data on the outputs and pulsing the nibble strobe high. Then the upper 4-bits of data are shifted to the lower 4-bits and output and finally the strobe is pulsed low. Bit 7 must be kept high when sending data and held low when sending the break.

This is achieved by sending two UART strobes and then waiting until the Busy line signals the transmit buffer is empty. The break bit on bit 7 must now be raised. Note the Busy line is an inverting input so we are looking for a zero here to indicate the UART has finished. The Mark after break delay time occurs naturally due to the speed of the BASIC. Before each byte is sent, the program checks the ACK line to see if the UART buffer can accept the next character.

All the output is performed by the parallel output calls in the operating system. If you only have a single direction printer port you will have to load in my Mono_D module should your computer complain about the SWI. This is because Acorn, in its wisdom, does not implement the call

The send byte routine can be converted into machine code for maximum speed. However, if you have a StrongARM processor don't bother, BASIC runs faster than the hardware. If you have a slower machine and don't fancy turning your hand to machine code you can eliminate the lines that look for the UART to be free, but check it still works and you're not trying to strobe a full buffer.

The software could be extended from this simple base into a full blown lighting console. This type has two controls for each light and a master fader to mix between one setup and another. You could also write a program to sequence flashing lights or to tie in sound and lights now you know how to start. See you next month. AU

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Rambles through Acorn Wood

Another selection of problems and solutions from **Mike Cook**

What's in a name? Well a lot really, and it seems that the computer industry is losing the ability to think of new sensible ones. I hate products that give no indication in their name as to what they do.

Take the application on the cover disc a few months ago. It was called *Hilighter* and had the logo of several hilighter pens – but what did it do? First I looked in the readme file. This told me lots of things but not what it actually did. So then I looked for a Help file – there wasn't one. I opened up the application, no document files. There was a slight clue in the info box – 'information handling', it said.

It turns out that the application is nothing to do with hilighter pens – it's just that one of the processes involves highlighting a section. What it actually does is link together screens for presentation or learning – why could it not say so? It's very arrogant of authors to think everyone has heard of their product.

It gets worse in the PD sector. Sometimes there are pages of legal disclaimers, copyright notices, version histories, shareware prices and methods of payment, even praise for a program's flexibility and power but no explanation of what it does. So please let's return to boring names that give clues to the software's function. And, have a bit of modesty – not everyone has heard of your application.

At the Acorn World show I purchased what looked like a bargain – a CD containing movie clips to experiment with costing less than a fiver. I was done. The clips were of low quality, taken by a not very steady hand-held domestic camcorder. The subject matter was underwhelming – a whole folder of horses eating grass, traffic on a motorway and a worm slowly moving into its hole. However, the prize for the worst clip, if there were a prize, would go to the stunning 10-second clip of a triangular road warning sign. I kept waiting for it to move but it only swayed slightly due to an unsteady cameraman.

This might sound a bit like Monty Python but I would like to apologise for my last apology. It turns out that the slide show images are on the StrongARM CD after all, despite the denial from sources at Acorn who shall remain anonymous. Thanks to all those who pointed it out, especially Bimal Jangra from Birmingham at the Acorn World show.

Ian Carr e-mailed me on the topic:

I can assure you that the slide show images are on the StrongARM CD. I'm looking at them right now – they're in $.SACDROM.DISC370.DISC370, which is a huge archive. So are all the videos, as well as the 3.7 Boot, Apps, Utils etc.

Chris Hughes, a member of Wakefield Acorn Computer (User) Group has a few comments about the Deskjet 600 that Jonathan Gutteridge had:

Versions 1.53 and 1.54 of Acorn's *!Printers* has drivers specifically for this printer, while in the case of Turbo Drivers you are advised to use either the 510 or 520 driver since this is basically the same in spec.

To solve the problem of the missing lines, set the height lines in the Text margins part of the printer driver to between 60 and 66 – this should fix this problem.

It is partly caused by the rather large print border and also the fact that it might well be performing a perforation skip, and yes, I know it's a single sheet printer but they still have a lot of old codes in for backward compatibility!

To solve the problem of the missing lines, set the height lines in the Text margins part of the printer driver to between 60 and 66 – this should solve the problem

On the same subject David Symes from Dorset notes:

I know from experience how frustrating it can be trying to get a WYSIWYG(ish) screen presentation onto paper.

I discovered many years ago that even though a full A4 sheet is supposed to be around 297mm long, for some strange reason word-processors and printer drivers do not seem to be governed by the same set of measurements and my documents get chopped at the bottom. My solution was to reduce the word-processor and driver page size until things fit correctly.

I think the problem here is that many printers can't approach the edge of a page.

I have had a good response about support for Model B, Master and even Electrons. It seems that there are still some dedicated souls out there doing there best to support them. The first one I heard about was: 8-Bit Software, 17 Lambert Park Road, Hedon, Hull, HU12 8HF

This is a one-man operation that produces useful stuff including a regular disc-based magazine. More details and magazine back issues on ftp.acorn.co.uk in /pub/8bit. I have been informed of a few more from John Crane of Harrogate and Martin Wilson of Yeovil but to save space I have put the contact addresses in a text file on the cover disc.

On the subject of URL addresses, Joe Oldak – Webmaster for the Acorn Computer Group informs me that:

In your column this month there was a question about BBC resources and you rightly said that application notes were available on the Acorn web site. However, the URL you quoted is out of date. This is because of the re-structuring I've been doing on the site.

The correct place for application notes is the Sales and Support section of the ART site: http://www.art.acorn.co.uk/SALES/

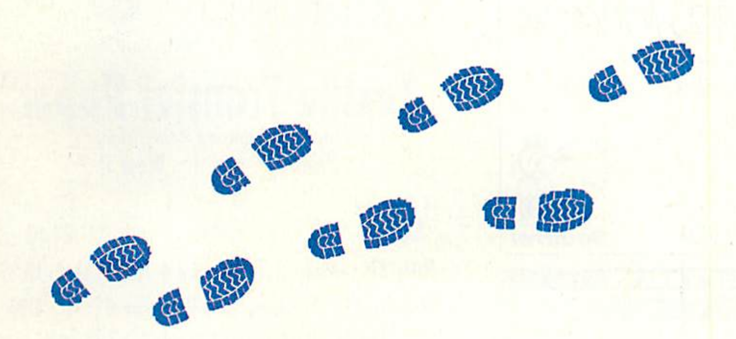
David Walker from ART sent in these follow-ups to some recent debates:

X Windows: !X, from Gnome computers, is a full X server for RISC OS; it's currently X11R4 with R5 font extensions, but Chris Stenton (jacs@gnome.co.uk) is working on a full X11R6 implementation. !X works on StrongARM and is pleasantly fast when running on one. I use it regularly to connect to our Solaris boxes. More info on http://www.gnome.co.uk/.

Mac Fonts: First of all the fonts need to be in the Adobe Type 1-format. However, some that claim they are this format do not stick strictly to the Adobe specification. This could be the reason that T1ToFont is having trouble with it. If the font file is using the Mac filing system then it should be all right.

John Dennis from the department of Mech. Eng., at the University of Southampton has a problem transferring large files between platforms:

My A420/1 is not actually connected to the net. Instead I use these awful P100s at the university where I get free Internet access – very nice. I have recently bought a new hard drive and have discovered the relative marvels of Digital Video. The problem is that I have to transfer the files from the university computers to my A420/1 by disc and I only have a 800K disc drive (which is only 713K DOS Formatted!). So I can't fit any of



the larger files on to these discs and therefore have a very limited number (and size of video clips). Is there any way of splitting these up on the P100s and transferring them to my Arch, to be reconstituted?

An application called Split will do just this on a number of cross platforms. It will cope with Archimedes, PC, VAX, Sun, Alpha, HP, NeXT, RS6000, SGI and ULTRIX. You can get it via the Internet from many places including Hensa. There are two files – Split and Support. Split is the RISC OS desktop application whereas Support contains a command line version for all the machines, including Acorns.

As I got a few enquiries of the same type over a couple of days I contacted the author Adam Hamilton and he kindly gave me permission to put it on the cover disc. He even sent me a slightly newer version that is generally available. Due to space limitations I have removed the nice post-script instructions – these can be obtained either from the author or any Internet site carrying it.

Peter Young contacted me via the Internet to say that contrary to what I said, it is possible to have an IDE CD drive and a SCSI CD drive connected at the same time. He says:

Initially I used to load both drivers in !Boot.Choices.Boot.PreDesk but now I Flash load them into the ROM on my Cumana SCSI II cards! CDFS just seems to sort out what wants which driver... thankfully! I use an Eesox ATAPI driver and their generic SCSI2 CD driver. All I do is flash the Cumana ROM with both CDX modules...

The only snag is knowing which drive is 0 and which is 1.. I took advice from Chris Magee, ex technical director at Cumana and this is his response: "Normally the Atapi drive occupies the first available SCSI ID and LUN therefore if ID 0 is not taken up the Atapi drive should use this and be the first CD drive".

Dane from Werewolf Software also informs me that:

I have a SCSI dual-speed CD-ROM drive (the one in the Acorn MEU) on my Cumana SCSI 2 card and a Sony ATAPI quad-speed CD-ROM drive, both connected up in my RPC700. They work 100 per cent fine together with no problems whatsoever. I've had it set up this way for the last 11 months!

OK, so all I know is that my Yellowstone ATAPI driver won't work with the SCSI system.

Matthew Smart from Stourbridge is having trouble with his printer:

I own a A3010 and a Commodore MPS 1230 dot matrix printer. I have connected it up to my computer with a parallel cable and used the FX80 driver. It prints text from *Edit* perfectly, but when I try graphics or fonts from a word-processor it leaves giant lines between parts of the document letters. It printed graphics perfectly from my old Commodore 64. Please can you tell me how to get it to print correctly as I don't want to fork out £200 for a new printer.

Ah! I haven't had one like this since the old days. It's the old CR LF problem – that is carriage return and line feed. Manufacturers can't agree on what they mean nowadays. Strictly speaking CR returned the print head to the start of the line and LF moved the paper to the next line. However, many manufacturers use just one of these codes to do both functions or in the case of graphics maybe none at all.

Printer manufacturers normally included an option to have an automatic CR with each LF or vice versa. These options could be implemented in many ways. The most usual was a small switch inside the printer. This is in a row of switches that controlled other things as well. It could also be set by a signal on one of the interface inputs or from a sequence of control codes. What's happening is that in the graphics mode the computer is sending too many control characters. You will have to investigate – set your printer so as not to have an automatic CR with LF, or uncheck the 'print LF' box in the printer driver or both.

It's the old CR LF problem – that is, carriage return and line feed. Manufacturers can't agree on what they mean nowadays

Alan Metcalf from Accrington is having problems getting a new monitor to work:

I recently purchased the BeeBug 9 to 15 pin monitor adaptor to enable me to use a VGA/Multisync monitor.

The adaptor wasn't supplied with instructions and after numerous phone calls to BeeBug and technical people not being available, the best I got was mutterings from their sales staff about swapping over LK1 and some change to LK2. Could you please give me a definitive answer?

VGA monitors require separate horizontal and vertical sync pulse signals. Normally Acorn computers use a mixed sync signal. LK1 needs to be swapped over.

This will be set to the south – that is the shorting link will be between the middle pin and the lower pin. Remove the link and replace it between the middle and top or north pin.

This feeds the mixed syncs into pin 5. The VGA monitor needs the vertical sync here but copes quite well with mixed syncs. Then add a shorting link to LK1 – this feeds the horizontal sync to pin 4.

Peter Smith contacted me with reference to my StrongARM incompatibility page:

I would like to draw your attention to my page at http://www.ursaminr.demon.co.uk/sagames .htm which is dedicated to games running under the StrongARM.

It has a list of demo, full and PD games and indicates their working status and whether the game can be made to work.

For example, PD *Tracker* may be cured by replacing the QTM module with the latest version on my pages or it might be cured by the *Crunchfix* module, which has a link.

Flashback (on mine) works by using *Crunchfix*, *Starfighter* by using *StrongCache*, as does *Elite* and *Stunt Racer* (RiscPC version only BTW) Sadly, unless the *Lemmings* versions are for the RPC specifically, there's no obvious way of getting it to work.

Thanks. There's a lot of useful information there. It seems that a lot of things will run under the StrongARM if the cache is turned off while it is loaded in, and then turned on again after the icon appears on the icon bar.

This can also be built into the Run file of an application. However, with the cache off the computer runs very slowly indeed.

If you fancy seeing how to weigh a star, Leos Ondra has a Web page to show you. He writes:

I have put on my WWW pages a small lab 'Weighing a star'. Use just a ruler, a common calculator and the two enclosed diagrams (downloadable in PostScript) to determine the mass of Capella, the brightest star of the winter constellation Auriga the Charioteer and the text-book double-lined spectroscopic and interferometric binary.

Based on recent papers by Barlow, D.J., Fekel, F.C. & Scarfe, C.D. 1993, PASP 105:476, and Hummel, C.A. et al. 1994, Astron. J. 107:1859. The lab is at http://www.sci.muni.cz/~ondra/ capella/lab html

Finally, Nathan Atkinson from Cleveland has a bit of advice about outline fonts on the desktop:

Desktop+ does allow fonts but only on the filer windows and *DeskFonts* didn't compensate for the spacing between the letters.

The program I found which allows fonts everywhere on the desktop is *Outline Wimp* by Andrew Sellors – it also comes with a Risc PC style mode changer.

This, coupled with my 3D texture template program (which needs a hard disc), makes a nice addition to all the pre-RISC PC Acorns. If anyone is interested I can supply both – telephone (01642) 787808 for details. AU

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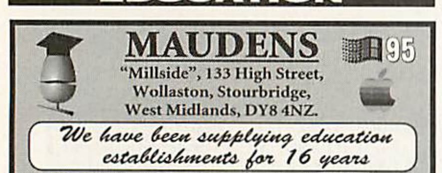
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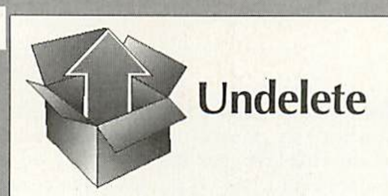
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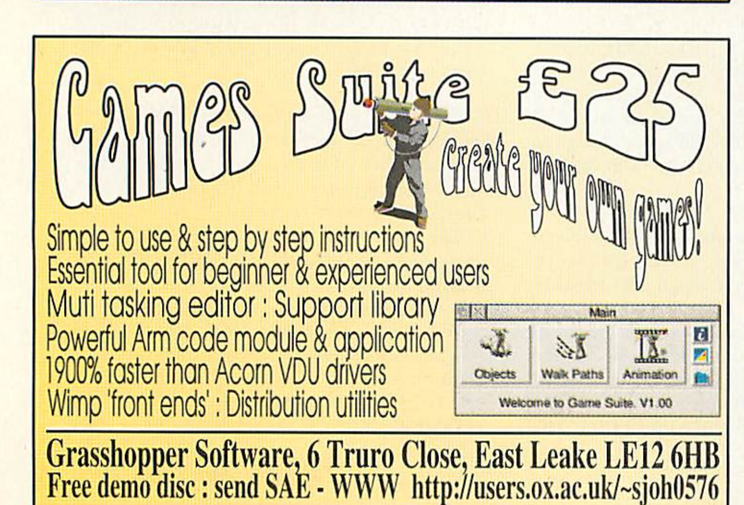
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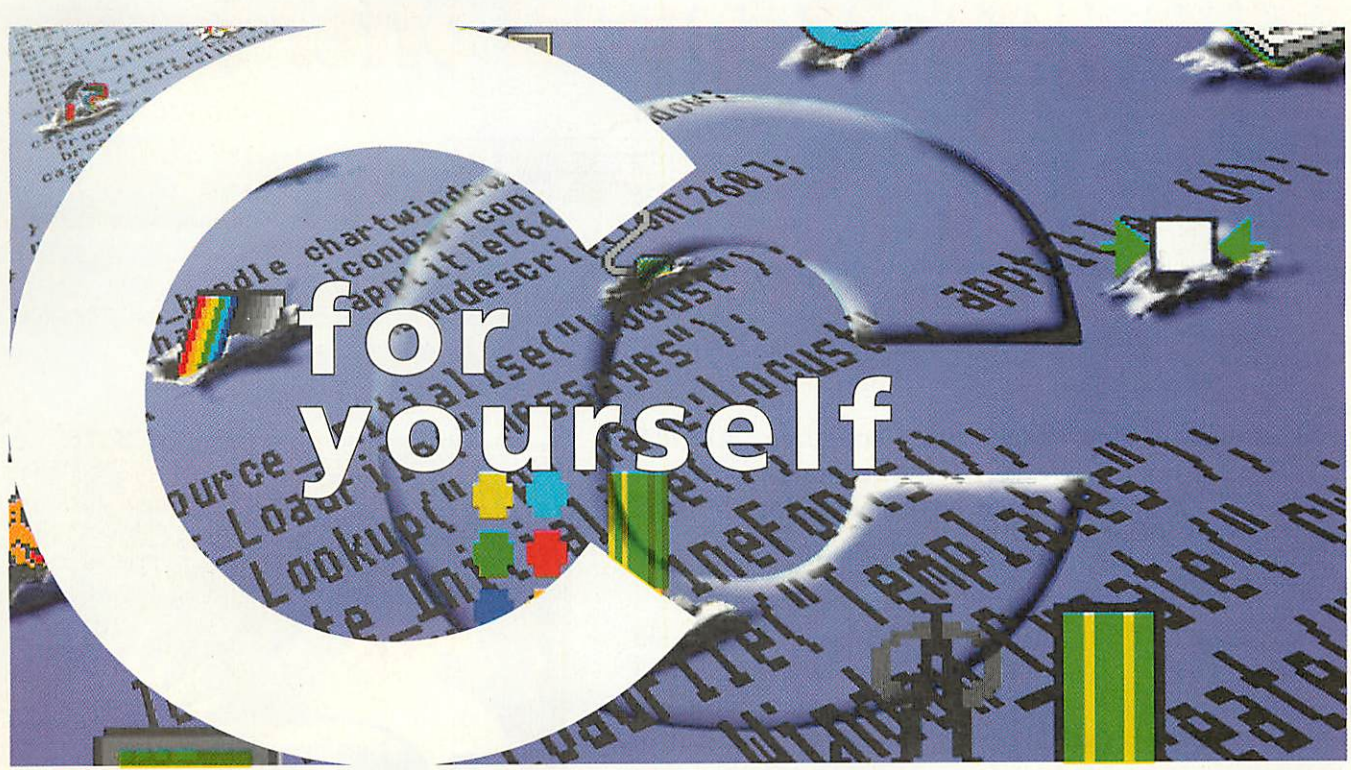


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JACK KREINDLER

Sorting through your data – **Steve Mumford** starts to explain how

Sooner or later, and it's probably going to be sooner, you'll find yourself writing a program that has to organise its data in some specific way. This could be arranging names and addresses into alphabetical order, or a list of numerical results into ascending order.

Usually this will involve sorting groups of data – records – according to one field. For instance, a simple address book program would sort its records, containing such elements as telephone numbers and street names according to the alphabetic position of the surname. In my parachute database, the individual records would be arranged according to their dates.

In BASIC, things are fairly straightforward. Numbers and strings could be compared with the same operators and because arrays were the only easy method of storage, if a whole record needed moving into a new location all the array elements with the same index would just require copying. It is a little easier if an array of structures in C are being used as a whole record can be copied in one go – the main point to note is that strings can't be directly compared using the normal numeric operators, there's a separate function to provide the necessary tools.

It's defined in the *string.h* standard library, so remember to **#include** it before starting. **strcmp()** takes pointers to two strings and returns an integer value depending upon the results of the comparison – if the strings are identical, the function returns zero. Otherwise, the value returned is either positive or negative to indicate which of the two strings comes 'first'.

```
int result = 0;
char a[] = "Hello";
char b[] = "World";
result = strcmp(a, b);
printf("The result was: %d", result);
```

In this case, a negative value is returned, indicating that string **a**, "Hello", lies before string **b**, "World".

I mentioned above that it was easy to copy blocks of data around in C when they're in the form of structures. This is true, but when using linked lists to hold the data, the situation gets a little more complicated. When dealing with an array of structures, predefined slots are used that have their own number, irrespective of whether that slot actually contains an information record.

Linked lists are somewhat more amorphous. And in order to remove a structure from the list it's necessary to do a little work on either side of the record in question so that the list isn't broken. The simplest way to alter the sequence of a list is to change where the links point to for each of its members – think of the list as a large telephone switchboard, the connectivity can be altered by pulling out a wire from one socket and pushing it into another. Now you might be able to see one of the reasons why I decided to give each of the list members two links, one pointing to the previous member in the chain and one to the next – in this way, when swapping the links around, it's easier to work your way up and down the list.

The dreaded bubblesort

The easiest – and normally the slowest – method of sorting is to step through the data gathered and look at each of the consecutive data pairs. Starting with elements one and two, decide whether they need to be swapped to approach the desired list order and perform the change if necessary. Moving on to look at elements two and three, the same comparison is carried out – and so on, until the end of the list is reached. In this way, the 'heaviest' element will sink to the bottom of the list in the first pass.

We've not finished yet – this technique needs to be repeated over the list several times until all the members are in position, but the range of the sort can be truncated each time knowing that the last element in the previous sort is in the right position. To avoid unnecessary repetition, a flag can be initialised at the start of each cycle and set to **TRUE** if a swap has been made. Once the routine completes a cycle where the flag remains unset, we know that none of the data pairs have been swapped and the list is now in the correct order.

This method is horrendously time-consuming for large datasets, and other more complex methods exist to minimise the time taken – more on those next time. AU

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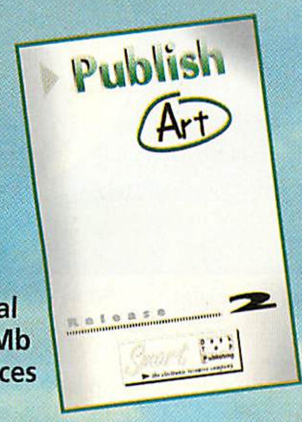
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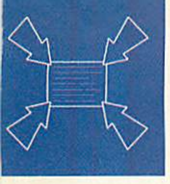
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• Watford ARM3 and software, £50. Watford IDE interface, A300/400 and 40meg H/D, £50. Hawk v9 mkII, £80. Impression Style, £30. Impression Publisher, £75. Tel: (01482) 871474 after 6pm.

• A3000, 4Mb RAM, 330Mb IDE, ARM3, RISC OS 3.1, user port, serial port, 2nd floppy interface, monitor plus lots of software including Learning Curve. £450. Tel: (01995) 604621.

• Acorn A3000, 4Mb, RISC OS 3.1, ARM 3, Taxan 775 Multisync monitor, PRES complete housing for hard drives adn other peripherals with 'second layer' (adds to first layer) expansion box hardware and firmware, SCSI Interface podule, ST506 Interface podule. £595 ono. Tel: 0191-285 0097 evenings.

• Z80 board to plug into external Tube on BBC with 'Perfect' software packages. 16 bit power software on an 8-bit machine. £25. Tel: 0191-285 0097 evenings.

• Software/Hardware: ProArtisan 2, Eureka, ArcFS2, WordWorks, Voltmace joystick, ARM2 chip, Birds of War, RISC OS 3.5 ROMs. Tel: (01690) 760308 anytime.

• A5000, 4Mb, 40Mb HDD. A4000, 4Mb, 40Mb HDD. A410/1, 4Mb 40Mb IDE, AKF50, AKF18, 3xDeskjet plus other goodies, monitors, printers, software, all the manuals etc. Tel: (01394) 460891.

• A5000, RISC OS 3.1, 4Mb, 41Mb/HD, Learning Curve, AK18 monitor, £450. Colour Card Gold, £60. Star LC100 colour printer, £50. Boxed as new. Tel: (01705) 615133.

• A540 system with 12Mb RAM, FPU, Acorn SCSI card, 116Mb SCSI disc, 48Mb SCSI disc, two 3.5in drives, 5.25 drive, I/O podule, Ehternet, Taxan 720 monitor. £485. Tel: Colin (01761) 472072.

• A5000, Multiscan monitor, 2Mb RAM, 80Mb HD. Selection of software. £500. Tel: (01494) 727156 after 4pm.

• Acorn A5000, 2Mb RAM, 41Mb hard disc, part of Learning Curve package with loads of software and games, Excellent condition, manuals and boxes included. Call Paresh on 0181-675 8648.

• Wanted: Archimedes Games Makers Manual, Beginners Guide to WIMP Programming, and Archimedes Assembley Language. No more than £5 each. Ask for Michael on (01953) 681684 (evenings).

• A5000, 2Mb RAM, 41Mb HD, AKF18 monitor, Learning Curve package and other software with Panasonic KXP1124i printer. Good condition. £400. Tel: (01494) 675040 (South Bucks).

• All back issues, 1990-1993 mags, £1 each. Discs, 50p each. Also discs from 1994. 50p each. Postage £1 (jiffy bag). Tel: (01223) 324318. Ask for Thomas.

• RPC 486 SX33 card, software and DOS, £80. Cumana Indigo CD-ROM with RPC IDE interface, £55. 2 podule backplane, £10. Call Kevin (01703) 346809 or e-mail K.R. Page@iee.org

• A3010, 2Mb RAM, colour monitor, printer, manuals, discs. Games selection: Star Fighter 3000, Premier Manager, £185 ono. Tel: 0171-584 0578 after 6pm.

• Wanted: Cumana OSCAR CD-ROM drive for A5000. Second hand but in good working order at reasonable price. Tel: (01427) 617625 (Lincs).

• Wanted: Cheap Acorn computer for hard-up student. Also wanted, any computer – old or malfunctioning esp. 1st/2nd Generation computers. Call: Darren (01302) 371535 (Weekends only).

• A3000, 2Mb RAM, 20Mb Hard disc plus monitor and some software, RISC OS 3.1, £200. Tel: (01254) 823373.

• A5000, 4Mb RAM, 160Mb HD, AKF18 monitor, RISC OS 3.1, PipeDream 4, PC Emulator, games, boxed, manuals. With Panasonic KXP1124 24-dot printer. £550. Tel: Mark (01252) 629338 (Fleet, Hants).

• Wanted by student: A5000 (not monitor), 4/8Mb RAM, SCSI interface?, PC card?. May accept slightly faulty unit. £300 is all I have. Tel: (01323) 509401.

• For sale: S-Base2 Developer plus pack, hardly used, unwanted gift, £80. Tel: (01353) 664214 after 6pm or weekends, ask for Andrew.

• A310 upgraded to 2Mb, colour monitor, keyboard, mouse, manuals, application discs, £85. Tel: (01865) 724781.

• A3000, 2Mb RAM, colour monitor, printer, PenDown, First Word +. Boxed games. Cyberchess, Saloon Cars, Man United, James Pond, Diggers, Superpool. Enter the Realm, DR. DOS, manuals. £300. Tel: (01425) 654429.

• A3000, RISC OS 3.1, 4Mb RAM, ARM3, 540Mb Internal Hard drive, 6 x CD, colour monitor , concept keyboard, PC Emulator, manuals, discs, CDs. £489, Tel: (01333) 730908.

• Wanted: A4 portable in good working condition. Tel: Maidenhead (01628) 31072 evenings.

• A5000, 4Mb RAM, 241Mb HD, Philips colour monitor, >10 percent faster memory, boxed. Sensible offers considered. Tel: Dominic (01582) 792530 or e-mail Dominic.Plunkett@comlab.ox.ac.uk

• A3010, 2Mb RAM, 170Mb hard drive, AKF50 colour monitor, PipeDream 4. Games including Virtual Golf. All manuals and instructional cassettes. Excellent condition. £400 ono. tel: (01483) 575861 (Guildford).

• A3020, 4Mb RAM, colour monitor, Epson Stylus 400 Bubble Jet printer, TextEase DTP package, lots of other software, no reasonable offer refused. Tel: (01772) 465462.

• Cumana OSCAR 2x CD-ROM drive for sale. Latest software, boxed. Less than a year old. £100 ono. Tel: Steve on 0114-267 0907.

• Acorn A4000, 4Mb RAM, 80Mb HD, colour monitor, screen filter, lots of software. VGC. £465 ono. All offers welcome. Tel: (01329) 846968.

• Got a StrongARM voucher? Want to make a profit? I'll buy it off you for £150. Phone Adam, evenings and weekends on (01908) 616935.

• GameOn 2, £7. Tel: (01484) 603825.

• A410/1, ARM3, 4Mb RAM, 42Mb Hard disc, 3.25in and 5.25in drives. RISC OS 3.1, keyboard, monitor, manuals, software inc Ovation, PipeDream 4, Squirrel, PC Emulator. £450. Tel: 0161-244 3237.

• Cumana dual speed CD 300i, complete, leads and instructions, £40. 2 x 4Meg Simms, £20 each, £30 the pair. Tel: (01386) 49732. Can deliver within reason.

• Games! All new and boxed. Populous, Speedball II, Gods, Loopz, Swiv, Serpents, Birds of War, Neuryon, Cataclysm, Pandora's Box, Stunt Racer 2000, £6 each. Phone Dave (01752) 253327.

• A3000, 2Mb RAM, Philips monitor, various software items. Offers around £250. Tel: (01484) 842934.

• Acorn A3000 RISC OS, Philips CM8833 colour monitor and Star LC200 colour printer plus 40 blank floppy discs. Tel: (01332) 332276. £300 ono.

• RPC600, 5/210Mb, 2 x CD-ROM, unused/boxed, £500. A3000, RISC OS 3.11, 2Mb CTM644 colour monitor, mouse, software, £200. BBC B/Master PSU, £5. Wordwise+ manuals, £4. tel: (01522) 514241.

• A7000, 8Mb RAM, 540Mb HD. Impression Style, HP printer, Turbo driver. Games, all manuals. £650. Tel: (01353) 648358.

• Acorn A4000, 4Mb RAM, 80Mb hard disc, color monitor, Home Office pack, other software, games etc. Boxed, as new. £500 ono. Tel: (01252) 851084.

• Mitsubishi G370-10 colour thermal printer, as new, original box plus one colour film. Full working order. £1100. Offers considered. no manual. Tel: Nottinghamshire (01949) 860738 (evenings).

• PipeDream4, £25. Acorn DTP, £15. 1st Word Plus, £15. Atelier, £15. Arctist, £10. Arcticulate, £10. Man Utd Europe, £10. Chuck Rock, £10. Tel: Christian (01285) 659872.

• 540Mb Conner HD (formats to 512Mb for RISC OS 3.1), £100. 4Mb SIMM, £20. 100 DD pre-labelled floppy discs, £25. Tel: Christian (01285) 659872.

• Wanted: RISC OS 3 Programmers Reference Manuals. Any reasonable price paid, plus postage. Tel: Ely (01353) 861728.

• Risc PC 600, 8Mb RAM, 1Mb VRAM, 170Mb HDD, 2x CD-ROM, AKF60 monitor, 486-33 PC card, Excellent condition. Includes manuals and PRMs. £900 ono. tel: (01952) 275171.

• A5000, 4Mb RAM, 162Mb HD, AKF50 monitor, SCSI card. Learning Curve, EasiWriter plus loads of games and other software. £900 ono. Tel: (01777) 709775.

• Midi/ Analogue/ User Port Podule for A3000 – sensible offers. SoundLab software for old Oak Recorder Sampler – sensible offers. Tel: Dave (01752) 253327, e-mail dflynn@plymouth.ac.uk

• A3000, ARM3, 4Mb RAM, 80Mb HD, PRES system housing, SCSI interface (Cumana), extra 3.5in FD, CM8833 stereo colour monitor, 3 expansion slots.£250 ono. Tel: (01634) 308258.

• Wanted: RISC OS 3.6 ROMs, Digital Symphony. For Sale: 1MB VRAM. Contact Ian (01388) 766213 or e-mail ian@arcade.demon.co.uk

• For sale: Impression Style, as new, unused. Also Archimedes User Guide. Offers. Tel: (01274) 679679.

• A3000, 4Mb RISC OS 3.1, ARM3, 170Mb HD, £350 ono. Genlock card for A3000 - put titles on your videos, £50. Tel: (01663) 743858.

• Risc PC 600, 8Mb RAM, 1Mb VRAM, 420Mb HD, 4 x CD-ROM, Mozart sound card, 486 PC card, AK6 monitor, £1000 ono. tel: 0161-430 8852 (Stockport).

• Wanted: HCCS SCSI Micro podule (and CDFS). Tel: (01225) 863828 (evenings and weekends).

• Wanted: A3000 or A3020, RISC OS 3 minimum. Hard disc, GWO. Tel: (01234) 359716 (Bedford).

• A3000 Philips colour monitor, Epson JX colour DM printer. £270 ono. Tel: 0116-288 7098.

• A5000, 4Mb RAM, 80Mb HD, monitor, RISC OS 3.11, Impression Publisher, Schema 2, games, utilites, all with manuals. £450. Tel: 0121-308 4317.

• For sale: Eureka v3, £35. Tel: (01223) 892891.

• For sale: Various emulators for Archimedes, £4 each. Latest available. Phone: Matthew on 0181-523 8058 or 0973 301882 (mobile).

• Acorn software for sale. Tablemate Three £18, Graphmate, £35. Plus postage or both packages, £50 including postage. Tel: (01706) 817570.

• SCSI card - Castle Technology for use with EZ drive 135, CD-ROM etc. Used on A5000, £30. Tel: 0151-639 8948.

• Acorn x86 card, DX4 100S for RiscPC with DOS 7. New, boxed and unused. £200. Tel: (01270) 841773.

• A3010, 2Mb Ultimate card, 47Mb Hard drive, Impression Style, PipeDream 4, Integrex Colourjet printer CM8833-11 monitor,TalkWrite. Buyer collects. £500 ono. Tel: 0181-842 1028 (Northolt).

• Canon BJC 600 with latest Turbo Drivers, £250. Boxed, as new. Tel: 0973 692 932.

• A7000, 8Mb RAM, 540Mb HD, Impression Style, HP Turbo printer driver, games. £650. Tel: (01353) 648358.

• A5000, 2Mb RAM, 80Mb HD, Learning Curve, Philips CM8833 monitor, Star LC 24-30 colour printer. Impression Junior, Personal Accounts, lots of educational software, £500. Tel: (01737) 249606.

• A5000, 4Mb RAM, 80Mb HD, Learning Curve, monitor, CD-ROM, PC Emulator, Advance, DOS 6.0, Genesis, Impression, lots of educational software, manuals, + HP colour printer. £1100 ono. Tel: (01784) 433438.

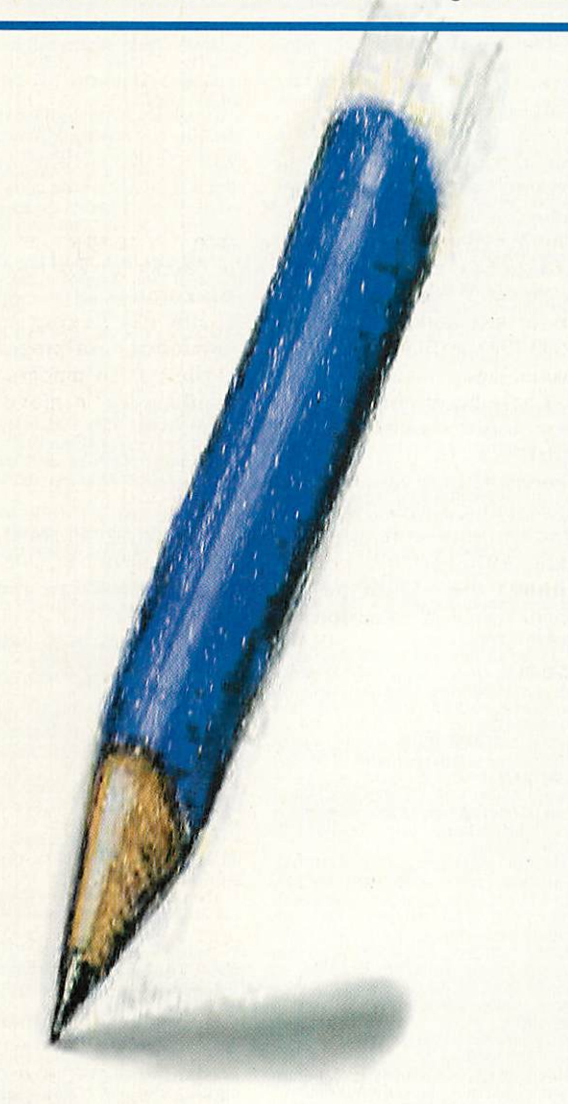
• CableNews2 presentation package: Can take any type of file (including replay files). Needs a computer with RISC OS 3.11 with 4Mb of RAM and preferably more. Full packaging and documentation included. Wil sell for £35 ono. Please phone 0181-568 1633 and ask for Tomislav or e-mail: Tomislav@temp-pubs.demon.co.uk

• WANTED: Any Acorn computer for BBS in South Africa. Need person to sponsor me a computer. Contact alistair.phillips@progtest.alt.za

Acorn User Free Ads Service

Why not take advantage of our free reader ad service? Fill in your details on this coupon (25 words maximum, one word per box below) and send it to Free Ads, Acorn User, IDG Media Ltd, Media House, Adlington Park, Macclesfield SK10 4NP. Only one ad per reader, please. Although we try to publish every ad we receive, we can make no guarantees; publication is entirely dependent on space and time constraints. We may also publish free ads on the cover disc if magazine space is short. Please fill in your name and telephone number below: these will not be published, but they enable us to contact you in case of any queries.

Your name:... Telephone no: ....









Struggling on

I am a struggling student at Staffordshire University, taking a degree course in electronic media. It is a multimedia course but they called it this because it looks good in their course handbook I presume.

Although I enjoy most of the course, I have a problem concerning the computers used on this course. They are Macs. At home, I have a Risc PC, recently upgraded to 8Mb. I suffer severe problems in getting work between the two machines having to resort to floppies to get mostly graphics work across from one machine to another.

My position is not an envious one. Because of lack of money I cannot buy a Mac. Not that I would want one if the frequent crashes I experience are anything to go by. I have managed to scrape up the cash to buy a Syquest drive which eases the problem of storage, having before relied on other people's machines to keep my project work.

Right now I cannot use the Syquest on a Risc PC because of a lack of a SCSI card. From what I have discovered, certain cards give a lot of problems when trying to connect the drive (an EZ135 external drive by the way). Is there any way I can get a straight answer to the question: which cards work, and which don't? There is so much conflicting information out there, and I cannot afford to make mistakes. As a magazine publisher who partly uses Acorns, do you use Syquests, and if so, have you had problems in connecting them?

I went to the Xemplar stand at Acorn World, and asked one of the attendants about the new XMPC machine due out next year. He didn't know much about it and I asked him whether the venture included universities as well as schools. He said no, because universities are that much closer to industry and so have to stick to industry standard technology. So basically, our children grow up using Acorns, but as soon as they leave for university they have to come to terms with lowly PCs and Macs, spending time learning new conventions and getting frustrated at their shortfalls.

I find on my course, that Acorn is still regarded as 'that pathetic little company that made those BBC machines'. I could show them what Acorns are really like but I don't have the software to prove it. *Photodesk* is a major step forward in the credibility stakes along with *Hyperstudio*, but there is still no major multimedia creation package in the same league as the industry leader *Macromedia Director 5*.

I hope with the launch of the XMPC next year I will start to see major improvements in the compatibility stakes between the Mac and Acorn, because right now I feel that these sort of problems should have been at the forefront of Xemplar's strategy when the company was formed.

Having put that aside, I am still happy with my machine. The Macs at college are far inferior and my fears about PowerMacs/PowerPCs crashing frequently have been realised. How these machines came out with the bugs is anybody's guess. To see the Rocketship Risc PC running four movies and four TV channels plus a drawing application on the desktop, all independent of each other, on a 17in monitor displaying 24 bit, hi-res colour, all under StrongARM (with pizza while you wait) gave me added confidence in the technology that Acorn can conquer the industry with.

Perhaps in a few years, when the NCs are about and NCOS/RISC OS is a world standard operating system, the sort of problems I am going through now will be a distant memory.

Stephen Scott
dc5bass@cr47c.staffs.ac.uk

For connecting the various drives your best bet is to talk to your local dealer, unlike certain other markets we could mention, Acorn dealers know what they're talking about and will always give honest help. After all it's not in their interests to upset you with wrong information — the market isn't quite big enough for that.

We used to use Syquest drives but now we transfer data across the internal network.

I suppose I shouldn't be surprised that you got nonsense out of the Xemplar representative but you would think that with their Acorn side they would have some grasp of the real world. The XMPC machine is ideal for all education markets — hopefully they'll realise this when it comes to actually selling the machine. Still, Acorn no longer require the education market for their success so it's not so great a problem as it was.



A quick note

The new 640Mb Fujitsu MO drives do not work on Acorn machines. The discs use 2K sectors and FileCore is not able to read the boot block information from the disc as it is not on a 2K boundary

Dave Lawrence,
***INFO Editor**
austarinfo@idg.co.uk

IDE problem

It has come to our attention that there may be a problem with the operation of IDE hard discs larger than 2G bytes on RISC OS 3.60 and RISC OS 3.70. This problem appears to only apply to hard discs connected to the internal IDE interface (i.e., those that use ADFS). This appears to be a separate problem to that fixed by HForm 2.47 Beta.

We are currently investigating this problem, however we believe that at present the problem can be avoided by setting ADFSBuffers to 0. If you are using a drive of 2G bytes or more on the internal IDE interface then we strongly recommend that you set ADFSBuffers to 0.

To do this, press f12 in the desktop, to get to the command line, and type:

```
configure ADFSBuffers 0
```

then press return. To check that the configuration change has been correctly performed, type:

```
status ADFSBuffers
```

then press return and you should see:

```
ADFSbuffers 0
```

in response.

Once you have done this, return to the desktop by pressing return again, shut down and restart your computer to make the change take effect.

Remember that when you perform a delete-power-on, the value of ADFSBuffers will be reset to a non-zero value, so you should manually reconfigure the value to zero after a delete-power-on.

When the problem has been properly resolved, ART will make an update or patch available to enable ADFSBuffers to be utilised once more.

Simon Proven
Software Engineer,
Acorn Risc Technologies

Numero Uno, for now

Recently, Acorn have stormed to the forefront of technology, boasting a highly efficient 200MHz Risc PC (courtesy of the StrongARM) and now the NetStation. The idea of the CHRP is being dumped, in favour of Acorn's (or should I say ART's?) own RISC based system. After lagging behind for three or four years, we are now up with the big guns again. But how long will we stay at StrongARM level while the PC technology of tomorrow catches up?

In 1987, Acorn users were thrust violently into the forefront with extremely powerful 32-bit machines. We then had a pause of a few years without much development, letting the IBM compatible machines catch up and take over slightly. Then we had ARM3 to catch up which gave us equal, if not slightly superior performance to our PC friends. But then we slowed again and lost our lead, with just a couple of peaks – the advent of the RiscPC and then ARM710. Again, we were left dangling for a year or two, until our recent huge boost. Are we going to have to dangle for another couple of years while PCs start to take over again? I hope not. It is the responsibility of ART and ARM to keep us at the spearhead of leading technology.

I have heard a rumour of a Risc PC with a PCI bus, support for an alien 64-bit processor and a host of other excellent features. It sounds good to me, scheduled for late 1997. Perhaps a clever innovation would be the incorporate of provision for SIMMs of RAM specifically for the PC card.

It is the hardware sharing such things as RAM that slows up the PC processor. Perhaps this might make a significant enough speed improvement to make WinRisc-style PC card use practical for all programs (WinRisc allows PC programs to run with the PC application in RISC OS windows).

The Risc PC is a truly flexible machine, capable of running incredibly powerful programs. It is such a shame that it is not fully exploited. The problem is that not enough Acorn companies feel it profitable enough to make fast, powerful programs just for the Risc PC. They feel it is necessary enough to make them work on all RISC OS machines – the only limitation being perhaps RAM.

Yes, this is what distinguishes Acorns from PCs – the support for enthusiasts with a lower budget, but it is limiting the growth of our more able machines. Risc PC SAs (as I call them) are easily capable of running complex texture map programs. The *Landscape* demo on the StrongARM demo CD, for example, could be developed into a fantastic new version of *Chocks Away* or some other simulator.

I'm not saying to stop development of programs for earlier Acorn machines, but we do have to move on to ensure our future in the computing world. I also have a RISC OS 3.1 A3000, and although it is a shame, I am prepared to except the fact that I will not be able to use all future software produced for the Acorn.

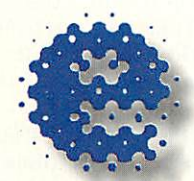
By the way, is there by any chance an adapter to put a two ROM set in a four ROM board (RISC OS 3.5 from my upgrade to StrongArm to replace my RISC OS 3.1 in my A3000)?

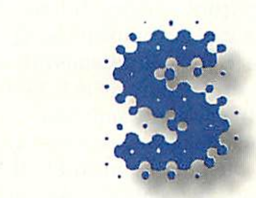
Guy Poland
guy@kingscol.demon.co.uk

With Acorn's MD, David Lee, and Peter Bondar at the helm of ART I believe you can stop being concerned about Acorn resting on its technological laurels. The main problem before was not a desire to wait while the rest caught up, but the fact that Acorn's resources were very limited. Back then, it was a company that was dying the death of a thousand cuts and the resources just weren't available for fast new development.

But that's worlds away from the current situation, with specific development being paid for by massive third party companies, and enough left over for ART to pay for what they like to call speculative development. ART are recruiting new engineers and programmers almost continuously — almost bleeding the market dry of Acorn third-party talent.

There are many things that could be done in terms of development but remember, the Acorn companies will only develop what they think they can sell — it's the only way to survive.







Paolo Rossi

The Regan files

> 'I have already spent many hours contemplating how successful Acorn businesses work'

Paolo Rossi is the business manager (and interface designer) of Sincronia Soluzioni Multimediali, the major Italian developer for the Acorn. Sincronia is responsible for *TopModel*, the *Gemini* engine – current hot topic in Acorn software. It is not that surprising to find an Italian company being a major Acorn developer. Italy and Cambridge do have strong links: Acorn is part-owned by the Italian company Olivetti and Cambridge, in summer, is home to the Italian language student.

My abiding memory of Italian language students in Cambridge is of meeting groups of them blithely cycling the wrong way round roundabouts, chatting away to each other. As Paolo was once a language student, this makes Sincronia's first programming project all the more ironic.

'Myself and Guido started Sincronia three years ago, programming a system for driving schools,' recalls Paolo. 'Guido was at the time actually working in a driving school, so this gave us a good insight as to what would be needed. We built a very nice multimedia system for teaching, but the problem was that in Italy driving schools are quite poor and did not have the money to spend. So it was not as successful as we had hoped.'

Sounds plausible to me – I've driven in Milan.

Although Paolo feels that Italy is a country of traditions and conformity, he himself does not like standards. He is in the Acorn market largely because the PC is seen as a computer standard.

'Standards breed mediocrity and that is not a good thing. It is far better for individuals to spend time doing things in their own way which then come together. This is how I see the Acorn market functioning. This is how the European Union should be run, not people losing their identity through unification policy.'

Italy is one of the least computer literate countries in Europe, primarily because it is one of the poorest countries and secondly because its population tends towards the elderly. However, to Paolo's business eye, this just makes the potential for selling computers all the greater.

'Sincronia is also a distributor of Acorn machines in Italy; just a few months ago we set up a deal for selling *Sibelius*, and we have helped in the translation to Italian. We are chatting to several other Acorn companies, because to sell something you need the channels and we know the Italian market. Just before summer the *Gemini* engine was developed, I visited Acorn and the director was only interested in figures of sales in Italy. I think a key to our success is that we do not just sell but we develop as well.'

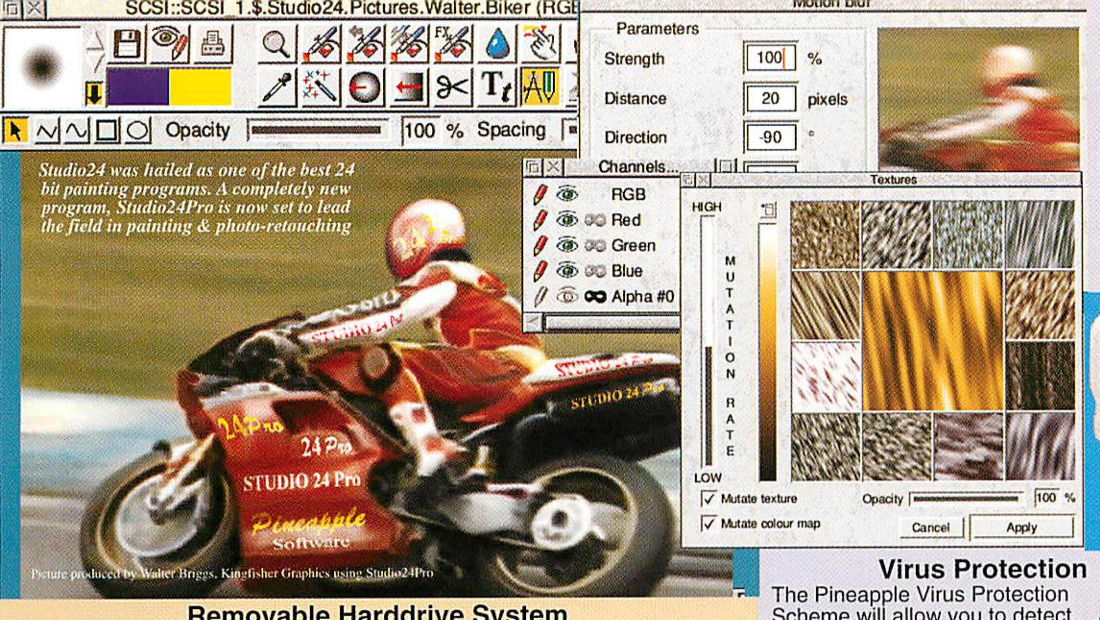
TopModel started life as a university project for displaying 3D objects. Paolo had the idea with Giancarlo (Sincronia's main programmer) to develop it into a complete application. They would like *TopModel* to become a world leader in its field – to be the 3D package equivalent of *Sibelius* – with people buying Acorn machines just to run *TopModel*.

'At the moment for us the Acorn market is a test place. If everything goes well and we can establish ourselves with a professional product then it will be fine; at the moment we are trying to establish where potential markets are. This is all the fun of business to me, predicting how a company will evolve and where to take it to do so, and watching it happen.

'I have already spent many hours contemplating how successful Acorn businesses work. I do not think it is tactful to comment on Acorn itself, but I really admire Computer Concepts' business sense – they have an uncanny ability to produce what the market needs. *Impression*, the *TurboDrivers* and *Xara Studio* on the PC all filled a basic need. In fact I visited them a few years ago and was very impressed ... right up to the point when they offered me a cup of tea with a spoon taken straight from a bowl of black-looking water. But perhaps that is an English custom.'

Paolo likes England, but does not feel he could live here permanently because he feels you have to be born into a country to live there. Also, one thing he has *never* done in England is go in to an Italian restaurant or have pizza.

'The only way I will go in an Italian restaurant is if I do not continue in programming and I take up my friend's suggestions of running an Italian restaurant here. You see I am a very good cooker.' AU



Many Acorn User front covers have been created from scratch using this program alone, concrete proof of the power of this creative tool'. - ***Acorn User March 96***

Studio24Pro

£149.87 inc vat

Special Offer!

Studio24 v1 £35.00



!NEW!

Casio QV10 Digital Cam £410.00

The Casio QV10 Digital Camera is now available for Acorn Computers. It is supplied complete with all cables and software. Stores up to 96 images.

Removable Harddrive System

Total Data Security & Harddisc Backup

The removable harddrive system fits into a 5¼" drive slot in the RiscPC and harddrives are available in many sizes which can simply plug in and out of the slot as required. The drive may be locked in place to prevent unauthorized removal. For total security the drive may be removed and stored in a safe place to prevent unauthorized access to your data. Because the removable drives are available in any size (up to at least 4Gb) they are also ideal for use as backups for existing drives, and may be transported between different computers.

PAL TV Coders

The PLC/3 PAL TV Coder works in any of the 'Standard' Modes, e.g. mode12 and 15 on all Acorn computer models. The PLC/3 has a 15 pin RGB output for the monitor, a BNC for video and an S-VHS connector for S-Video. The PLC/3 will work with RiscPC computers although the AKF60 and AKF91 will not work at the same time.

PLC/3 £104.57

The AVK/3 will work with all computer models in all screen modes up to 800 x 600 resolution in 16 million colours. It has a remote control with facilities for zooming, freezing & panning the TV picture. The AVK/3 includes all connecting cables including a SCART which gives TV frequency RGB O/P for large screen TV's, a phono socket for composite video and an S-VHS socket for S-Video.

AVK/3 £325.00

!NEW! A new model, the AVK/5 is similar to the AVK/3 but has the added feature of remote mouse operation using the infra red hand held remote control. This enables lectures and demonstrations to be done without having to sit at the computer keyboard.

AVK/5 £425.00

ArtWorks Video Tutorial

Walter Briggs is the tutor for this 1 hour video which shows how to use all the ArtWorks tools and then goes on to show how Walter produced his famous Tiger head picture. Walter also draws an impressive landscape picture which can be copied by those with no artistic talent at all!

ArtWorks Video Tutorial £19.99

24 Bit Colour Scanners

!NEW!

Pineapple offer a wide range of Flatbed A4 colour scanners. (At NEW LOWER PRICES - see opp.) The cheapest in the Epson range is the GT5000 with an optical resolution of 300dpi. This is adequate for virtually all home use. The GT5000 is available with either a parallel or a SCSI interface. The *NEW* GT9500 is the top of the range with an optical resolution of 600dpi and both parallel and SCSI interfaces. Imagemaster and Twain software are included in the price, but we also offer our Studio24Pro Photo re-touching software at just £80.00 inc vat with every scanner purchase.

Internet & World Wide Web

For all our latest prices and news of new products try our Web Site:-

US Robotics Voice Modem	£189.00
ANT Internet Suite Software	£116.32

http://www.pineaple.demon.co.uk

20 : 20 Finance available on all RiscPC's

Studio24 v1 FREE with any RiscPC purchase

FREE membership of the Virus Protection Scheme with any RiscPC

Studio24Pro at just £49.00 with any RiscPC purchase

Try our 'Choose your own RiscPC' deal and save money

Virus Protection

The Pineapple Virus Protection Scheme will allow you to detect and remove over 100 viruses from your Acorn computer. **'If you're interested in virus protection, join the Pineapple virus protection scheme and buy Killer. Accept no alternatives.' - *Acorn User Feb 96***

Multimedia Speakers

Yamaha 10 Watt	YST-M15	£63.00

A4 Colour Scanners

Primax Flatbed A4	£359
Epson GT5000 (parallel)	£399
Epson GT5000 (SCSI)	£469
Epson GT8500	£529
Epson GT9500	£679

All scanners include Imagemaster & Twain. Studio24Pro at just £80.00

A7000 Computers

4Mb	HD540	14" Mon	£1069
4Mb	HD540 CD	14" Mon	£1159

RiscPC 600 Computers

4Mb	HD540	14" Mon	£1275
4Mb	HD540 CD	14" Mon	£1375
4Mb	HD540	17" Mon	£1675
4Mb	HD540 CD	17" Mon	£1775

RiscPC 700 Computers

5Mb	HD540	14" Mon	£1525
5Mb	HD540	17" Mon	£1900
5Mb	HD540 CD	14" Mon	£1600
5Mb	HD540 CD	17" Mon	£2025
10Mb	HD1Gb	14" Mon	£1750
10Mb	HD1Gb	17" Mon	£2100
10Mb	HD1Gb CD	14" Mon	£1850
10Mb	HD1Gb CD	17" Mon	£2250

PC Cards/StrongARM

	Separately	with RiscPC
SXL-33 Card	£233.83	£116.32
DX2-66 Card	£289.00	£169.00
DX4-100 Card	£349.00	£229.00
586-100 Card	£468.83	£351.32
StrongARM	£279.00	£116.32

CDRom Drives

x8 Speed CDRom	£120.00

Memory Upgrades

1Mb Vram (Simtec)	£ 99.00
2Mb Vram (Simtec)	£129.00
4Mb SIMM Ram	£ 29.00
8Mb SIMM Ram	£ 49.00
16Mb SIMM Ram	£109.00
32Mb SIMM Ram	£199.00
RiscPC Sound Card	£70.44

'Phone for latest SIMM prices !!

All our prices INCLUDE 17.5% vat

Printers

Citizen			
PRINT*iva* 600C			£399.00
Hewlett Packard			
Laserjet 5L	4ppm		£399.00
Deskjet 690	colour		£269.00
Deskjet 870	colour		£399.00
Canon			
BJC610	col 720dpi		£360.00
BJC4100	col 720dpi		£249.00
BJC210	mono		£169.00
BJC210	colour		£199.00
BJC4550	A3 Colour		£399.00
Epson			
Stylus Colour 500			£269.00
Stylus Colour IIS			£199.00
Stylus Pro XL+ (A3)			£999.00

3.5" Bare Harddrives

540Mb	IDE	£125.00
850Mb	IDE	£139.00
1.2Gb	IDE	£165.00
2.0Gb	IDE	£249.00
3.2Gb	IDE	£349.00
1.0Gb	SCSI	£225.00
2.0Gb	SCSI	£349.00
4.2Gb	SCSI	£665.00

Removable Harddrives

IDE Mounting Kit	£ 15.00
IDE Removable Case	£ 10.00
SCSI Mounting Kit	£ 19.00
SCSI Removable Case	£ 10.00
External Mounting Box	£ 89.00

SCSI Systems

SCSI Card	£116.32
SCSI Internal Cable	£ 9.99
SCSI External Cable	£ 19.99
SCSI II Card	£189.00
SCSI II Internal Cable	£ 9.99
SCSI II External Cable	£ 22.32

Monitors

14" 0.28mm SVGA	£199.00
15" 0.28mm SVGA	£299.00
17" 65Khz SVGA	£525.00
17" 82Khz SVGA	£599.00
20" 82Khz SVGA	£1115.00
Iiyama Visionmaster	
17" 0.26mm MF8617E	£595.00
17" 0.25mm MF9017E	£669.00

!! Choose your own RiscPC !!

By allowing us to construct your RiscPC using some Acorn and some third party components you can obtain a high specification computer and save lots of money! Prices start as low as £999 including vat for a basic RiscPC. Ask for our special application form and just tick the boxes for the extras you require.

Pineapple Software have moved!

Come and visit us in our new showroom

Easy Parking

352 Green Lane, Ilford
Essex IG3 9JS
Tel 0181 599 1476 Fax 0181 598 2343
email:- sales@pineaple.demon.co.uk

Terms:- All prices ***include*** 17.5% vat. Carriage £5.00+vat on all hardware. Other items free. Phone for quote outside U.K. Official orders, cheques and all major credit cards accepted at no extra charge.

'Pineapple offer some of the finest and friendliest after-sales support you will find' - Acorn User Mar 96

Why not come and visit us (easy parking) where you can see most of the Acorn range of computers and other hardware in action.

Monday - Saturday 0900 - 1730

